eclipse

Installation and Reference Manual

eclipse™

AMS CONTROLS

Eclipse Installation and Reference

Chapter Summary

Introduction

Welcome to the Eclipse Production Management System

THE POWER OF INFORMATION

Eclipse will give you a wealth of information about many aspects of your operation. This information, ranging from production data to reasons for machine downtime, will assist you in making well-informed future decisions about your operation.

Through Eclipse this information will be collected effortlessly from each machine and captured in your permanent database files.

Eclipse helps you decide how this information is to be organized in a format that is relevant for your particular needs.

In summary, Eclipse eliminates the work of manually gathering, organizing and reporting production data on a regular basis.

KEY FUNCTIONS

Eclipse is the permanent link between each machine on your shop floor and the production scheduling office. This allows you to automatically schedule and download production orders to each machine, while providing you with ongoing real-time information, and also coordinating your production needs with accessory equipment, such as printers and bar code scanners**.**

BENEFITS TO YOU

Many AMS customers have indicated that use of Eclipse with XL Series controllers can result in productivity increases as significant as 40%! These dramatic improvements are possible by increasing your production rates and reducing your costs through improved efficiency**.**

BASE AND OPTIONAL MODULES

Eclipse is organized into a base module package, with additional optional product modules available. Please consult your Authorization Access Sheet to determine which modules you have purchased.

CONTACT US

We want you to utilize the power of the Eclipse Production Management System to the fullest. If you should have any questions or suggestions about Eclipse and its functions, contact us at AMS Controls at 800-334-5213 or at support@amscontrols.com.

Installation

Installing Eclipse is easily done and requires a minimal amount of additional hardware to begin communicating with production controllers. A single serial or USB port on the user's PC, a communications converter box, and a single, twisted pair cable will need to be attached.

PC requirements

Eclipse installs onto IBM compatible computers via a CD-ROM Drive. AMS has a minimum recommendation for computers that will be running the Eclipse software, surpassing the minimums will only enhance the overall performance and increase the user's satisfaction with the product.

Minimum Recommendations:

- Pentium model (Pentium, Pentium II, Pentium III, or Pentium 4)
- 200 MHz or higher processor
- 128MB RAM or higher
- Windows 98 or NT 4.0 or better

  (Depending on the type of network and what other applications may normally be running on the PC where Eclipse is installed, Windows NT 4.0/Win 2K will provide more reliable operation)
- 1.2 Gigabyte hard drive or higher
- 30 Megabyte of free hard drive space (Required), plus room for data files (540MB – 1.2GB recommended)
- 1 available serial or USB port (USB port requires Windows 98 SE or better)
- Mouse
- CD ROM drive

Additional items may assist the user when seeking technical support. These items will be required if assistance is needed:

- E-mail for notifying AMS technical support personnel of problems and providing copies of requested data files.

- Internet access for downloading system updates that resolve system problems and/or provide system enhancements.

The Installation Process

Follow the directions and diagrams that follow and the installation of Eclipse will proceed efficiently and effectively.

- Install the communications cable.
- Connect the PC hardware.
- Connect the XL controller(s) and update each machine's unit number.
- Load the Eclipse Software via the included CD.
- Setup Machine Data.
- Begin communication.

Once the cable is installed, the only tools that are needed will be a pair of wire strippers and a small flat-slot screwdriver.

Running the Communications Cable

Eclipse uses an RS485 communications format to transfer data to and from the controllers on the production floor. This enables the communication cable to be up to 4,000 ft long or better and still keep accurate information transfer.

In order to achieve good signal quality and long cable distances, proper cable selection, good wiring methods, and daisy chaining of the controllers is required.

Cable Selection

AMS **REQUIRES** that Belden # 9842 cable be used for proper Eclipse communications. This cable is used for the communicating between the office PC and the XL controllers and is an RS485 rated cable. It consists of a shielded, twisted pair with a shunt capacitance of 16 Pico-farad per foot or less and nominal line impedance of 100 ohms or less. AMS must approve any Substitutions. The nearest Belden dealer can be located by calling 1-800-BELDEN1.

INSULATIVE JACKET   SHIELD JACKET   TWISTED PAIR

BLU
WHT/BLU
SHIELD

AMS CONTROLS
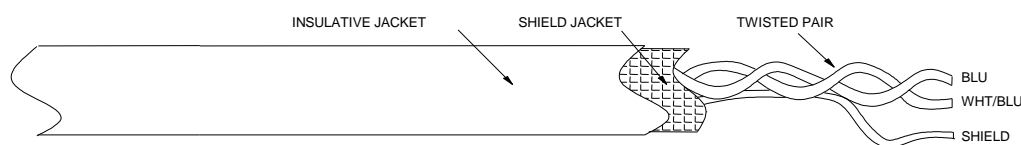
Wiring Method

When it comes time to stretch the wire from the PC to the XL controllers, care in where and how the cable is placed and connected may pay off richly in uninterrupted communications.

As the Eclipse cable enters or leaves the XL controller, the cable should be bundled and run separately from 110VAC and higher voltage wiring. Small signal wires such as RS485 (Eclipse), encoder, analog, or RS232 (Remote Terminal) can be run together, but should **always** have a separate conduit or path away from high-energy wiring. If they must be run in a common wiring trough, these wires should be bundled separately and isolated from higher voltage wiring.

Wires running in troughs or in other forms of wire transfer should be similarly segregated. Multiple troughs or the use of a trough separator plates are the preferred methods of wire separation. If this is not possible, the wires should be bundled with as much separation as possible.

Often, the Eclipse communication cable is then run through rafters or other devices located in the ceiling. Running the cable in this fashion is perfectly fine. It is still recommended not to run the cable along with power wiring, antennas, or with high energy feeds such as crane power commutators.

Daisy Chaining – Not Recommended

The communication cable must be daisy chained in order for an RS485 network to work. "Daisy-chain" means that the cable starts at one node and then goes to the next, then goes to the next, and so on until the last node is attached. A "Node" can be an XL controller or the PC itself. This means that there can be no "wire taps" or "triple junctions" throughout the cable. A tap is where an additional cable is spliced in, creating a third leg of communication. Typically, you can tell if a tap has occurred if three wires are being connected at any given joint or if a connection "sees" cables leaving it to three different directions.

Each end of the daisy chain requires that a 300-ohm resistor be attached. See the (*) on the following example for proper daisy-chaining and resistor location.
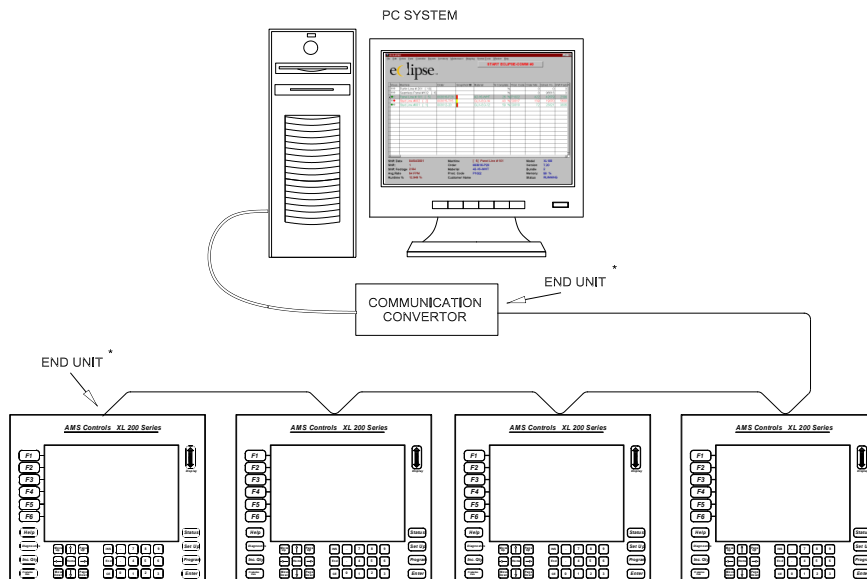
Figure 2-3. Good Daisy-Chain Example #1

Note that the connections form a constant chain from the first node (the PC in this case) to the last node (a controller). The beginning node and ending node each have the 300-ohm resistor attached.
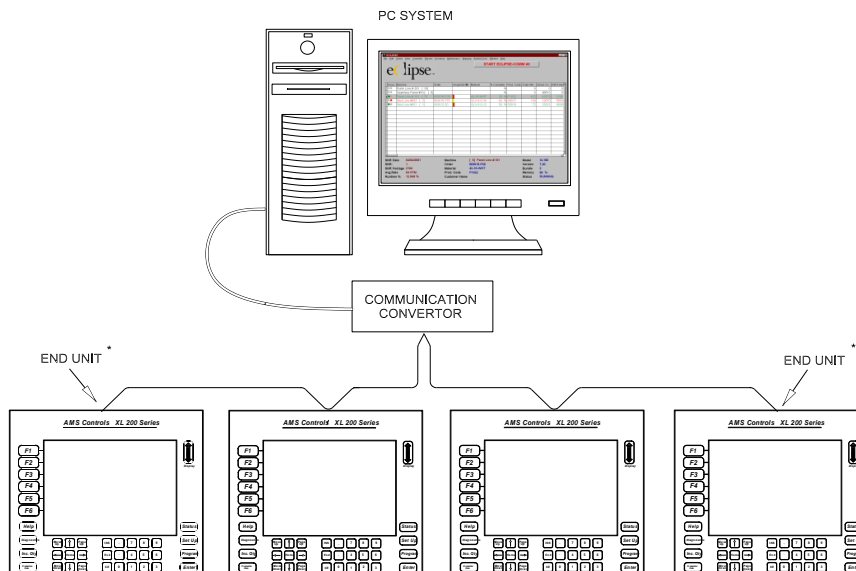
Figure 2-4. Good Daisy-Chain Example #2

Example #2 shows that it does not matter where the PC is located in the chain, as long as a continuous chain results with the resistors located at the node on both ends.
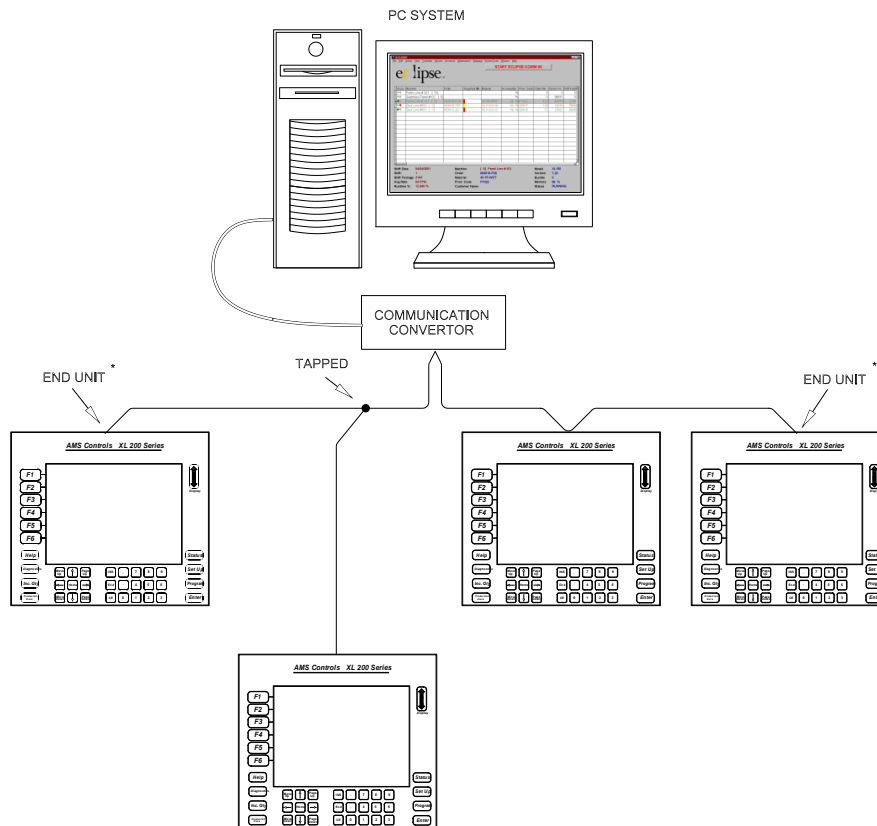
Figure 2-5. Faulty Daisy-Chain Example #1

The above example shows a unit with a "tap". This can create a phenomenon known as "data crash". Such problems can cause the relay of wrongful information or complete loss of communications.

The next example shows a communication line with a "triple-junction". It may be hard to tell when a user "taps" or "triple-junctions" a connection. As discussed earlier, an easy way to tell is if there are more than two wires being spliced at one location.

The example in Figure 2-6 shows a cable coming from the PC and two cables arriving from two separate controllers. This can create the same "data crash" phenomena discussed in the first example and should be avoided.
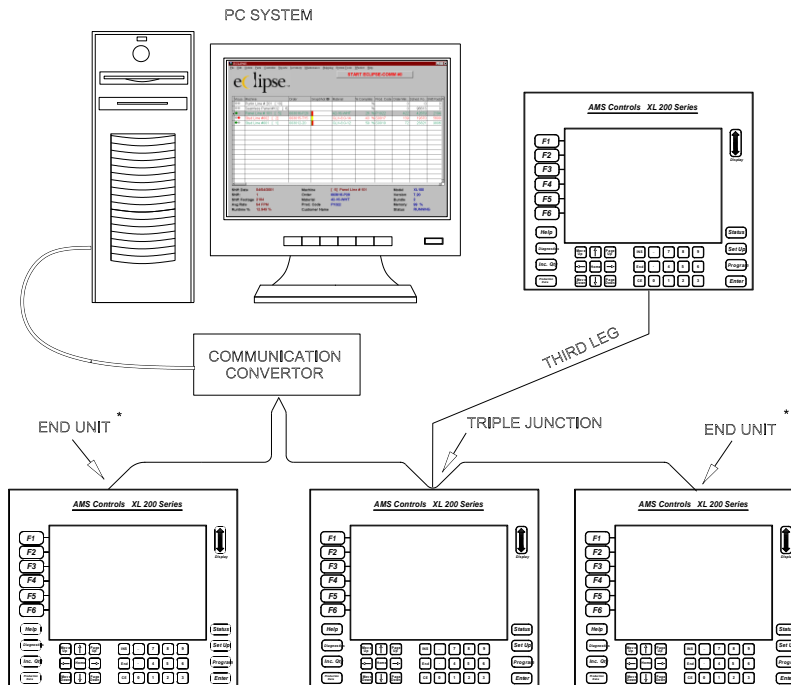
Figure 2-6. Faulty Daisy-Chain Example #2

Connecting the Hardware (serial port)

The Eclipse package will include the (1) Eclipse Software CD, (1) DB-9 to DB-25 Cable, (1) 24VDC Power Pack, (1) Eclipse Manual, and (2) 300 ohm loading resistors. Upon receipt of the Eclipse package, please verify that all hardware is included before beginning the installation.

Begin by turning off the PC that will be used for Eclipse. Eclipse defaults to port # 2 on the computer, but can be changed via the Eclipse software to the "available" port.

First, attach the 9 pin to 25 pin interface cable to the PC that Eclipse will be loaded onto. The DB-9 (9-pin) connector should plug into the available serial port. The DB-25 pin connector will plug directly into the "RS232 to RS485" converter box. Screw the finger head bolts into their respective locations to secure the connectors. See the connection diagram that follows:

Once the interface cable is attached to both the PC and the converter, the power supply can be attached. The supply may be attached already from the factory. If not, the supply has to wires, one solid black and the other black with a white tracer. The wire with the white tracer is the 24VDC wire. The solid black wire is the common for the supply. If the converter has more than one +12 volt supply on it, attach the wires to the supply nearest the TD and RD connections.

There should be two jumpers that are attached to the converter between terminals TD(A) and TD(B) and between RD(A) and RD(B). If these are not present they will need to be added to the module. One of the 300 ohm resistors may need to be placed between terminals RD(A) and RD(B) if the PC is at one end of the communication daisy chain. This will be discussed in the next couple of pages.

There are also two sets of jumper pins (JP1 & JP2) on the converter. Only JP2 should have a jumper block set on it. JP1 should not be connected with a jumper block unless directed by AMS personnel.

Connecting the Hardware (USB port)

The Eclipse package will include the (1) Eclipse Software CD, (1) USB cable, (1) USB to RS485 Converter, (1) Eclipse Manual [on the CD], and (2) 300 ohm loading resistors. Upon receipt of the Eclipse package, please verify that all hardware is included before beginning the installation.

Begin by turning off the PC that will be used for Eclipse. Eclipse defaults to port # 2 on the computer, but can be changed via the Eclipse software to the "available" port.

First, attach the USB cable to the PC that Eclipse will be loaded onto. The flat connector should plug into the available USB port. The square connector will plug directly into the "USB to RS485" converter box. See the connection diagram that follows:

Connecting to the XL controllers

The controllers will now need to be connected to the communications cable. We discussed that all nodes (XL controllers or the PC) should be connected in a Daisy-Chain configuration. Turn the controller off before adding the connections.

AMS CONTROLS
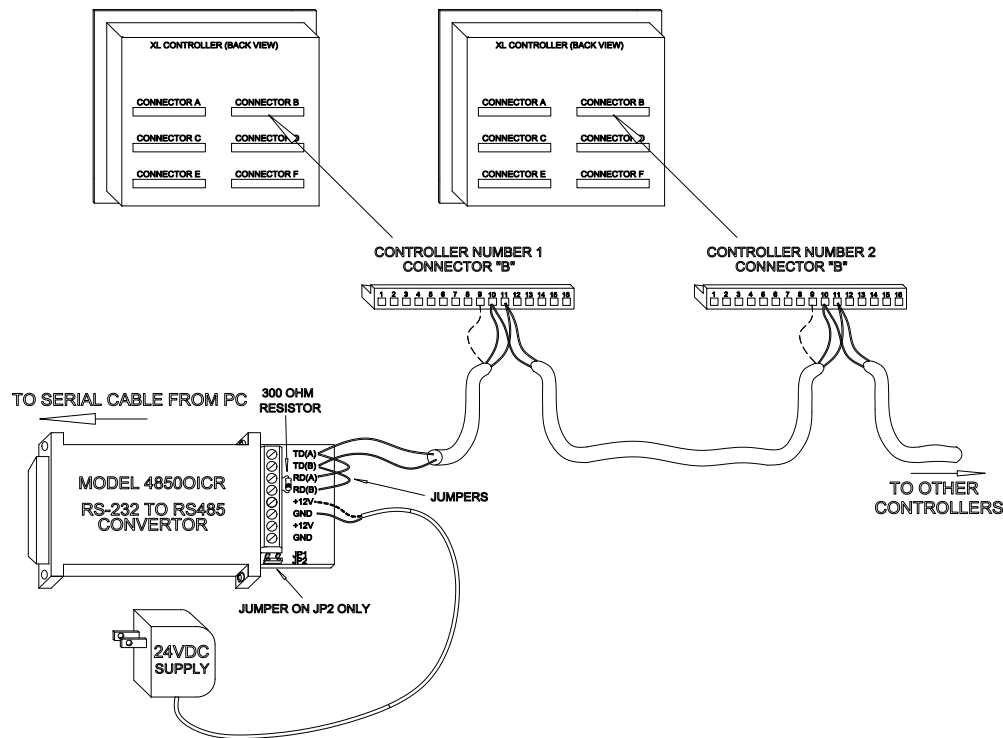
Figure 2-7. Controller Connections

The converter has (or will be) attached to the cable on terminals TD(A) and TD(B). The wire attached to the TD(A) terminal on the converter will be attached to the "B11" terminal on the XL controllers. The TD(B) wire will likewise be attached to "B10". The shield wire is attached at the controller to B9.

Note: As shown on the preceding diagram, only one shield wire is attached per controller. The outgoing cable should not be attached at the source controller, but at the next controller in succession.

Once the connections are completed at each controller, power the unit back up. A unit number from 1 to 30 will need to be assigned to each controller, with each controller having a unique number. These unit numbers give the controller its identity and will also be used at by Eclipse to recognize which controller it is communicating with. Perform the following sequence for each controller.

- Power control up (if not already)

- Press the **SETUP** key

- Press the **ENTER** key to select your choice

- Use the arrows keys to highlight "*Communications Setup*" on the screen

- Press the **ENTER** key

- The top line will prompt for the "*Unit ID Number*". Input the unit number for this controller (cannot be repeated on other controllers).

- Press the **ENTER** key.

Load the Eclipse Software

Now it's time to load the Eclipse software. Place the Eclipse CD into the PC. The installation program may begin immediately if the PC is set up to "auto-load". If the PC is not set to auto-load, click on the start command button on the lower left of the screen and a control menu will be displayed. Select "Run…" from the menu list.

Selecting "Run…" will cause a search window to be displayed. Select D drive (or whatever designation your CD is assigned) and locate the "Setup" file on the CD. Select this and click on the "OK" command button.

The user can also simply double-click on the "My Computer" icon and then the CD disk drive to start the installation program.

The "InstallShield Wizard" will load up first. The wizard will guide the user through the remainder of the installation process. The following window is the first one that will be displayed after starting the installation process
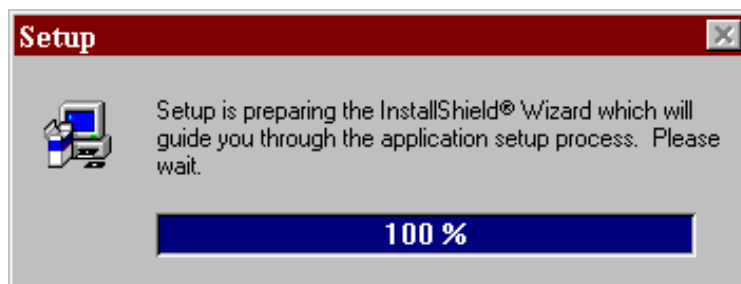
After the Wizard loads onto the computer, the first installation screen appears and prompts the user to read the user information and then proceed by clicking

on the "Next" command button. Please note the warnings regarding the unauthorized reproduction or distribution of the included programs.

Pressing the "Cancel" command button at any time will end the installation process. Press the "Next" command button to continue the installation.
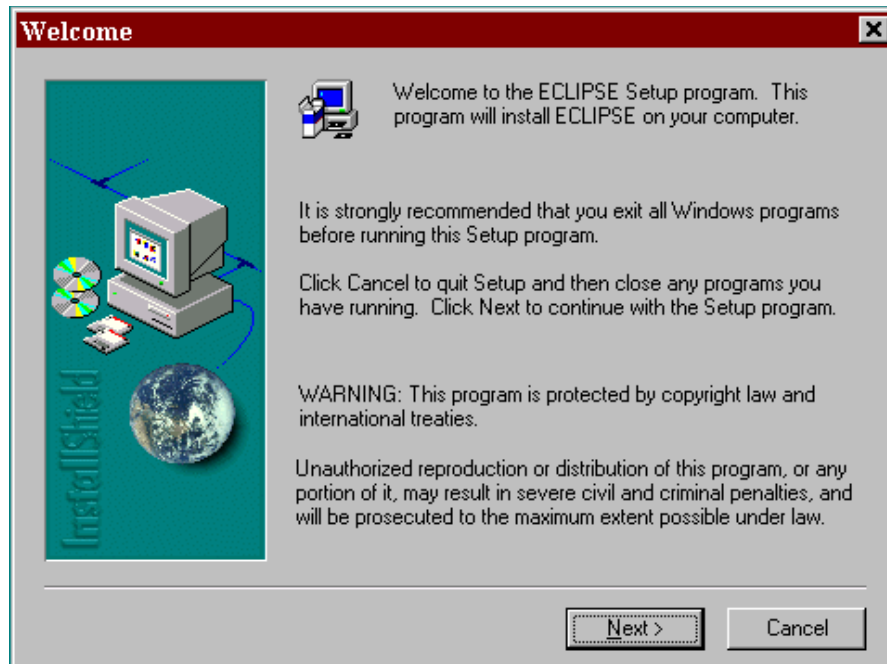
The installation wizard will then display the "Choose Destination Location" window. This will prompt the user for where the program should be installed. The default location is to "C" drive in the "Eclipse" directory.

If the user desires to change the directory to "XLWin" or something more descriptive, click on the "Browse" command button to open the "Choose Folder" window.

In the "Choose Folder" window, the user can then enter or search for the desired directory. The final path then should be "C:\XLWin" or whatever else the user designates the directory or folder to be. This can be simply be typed in or browsed to. If the new folder does not exist, the program will create it.
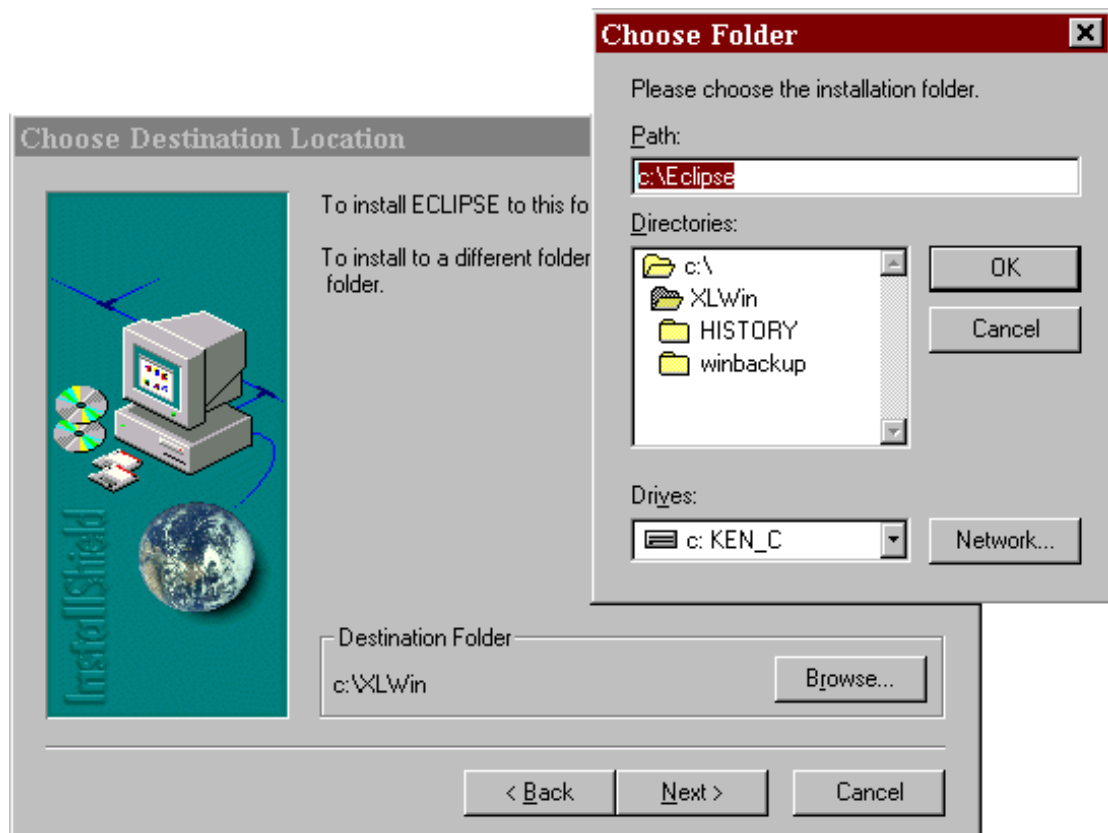
Once the desired location is selected, click on the "OK" command button to close the browse window, then click on the "Next" command button to proceed.

The next window will prompt the user for what type of installation this particular PC is getting. Four "Types" of installations are available:

Typical   Master User installations. This is the only computer that will have a direct connection to the controllers. All Node computers will point to the Masters' Eclipse directory, XLWin directory or other directory as set in previous window.

Network Node   "Faster" selection for Node installations. A portion of the program will be installed and run from the nodes local drive. This selection should be made if the "Standard Node" selection runs too slow.

Standard Node   The typical Node Installation. This will allow remote computer access to the Master. Most of the Eclipse functions can be performed at the Node including

downloading orders, printing reports and viewing machines as they run.

Custom Enables the user to choose the components that they wish to install. Individual utility programs can be added in this manner.
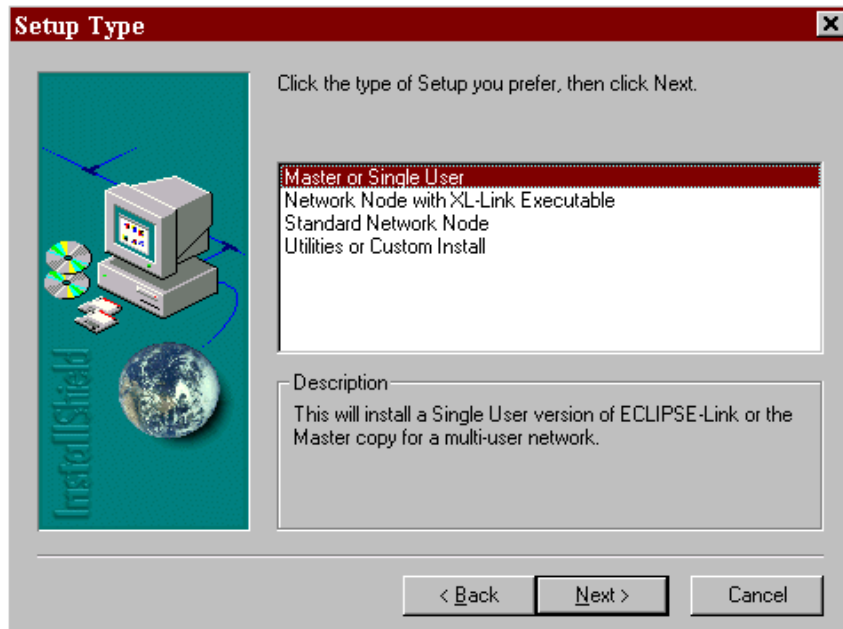
Once the desired selection is made, click "Next" command button to to continue.

The next screen will provide a selection list of program folders the Eclipse program will be loaded into. An existing folder may be selected from the "Existing Folders" list or a new one can be created by typing the new name into the "Program Folders" text entry. AMS Eclipse will come up as the default folder.

Select Program Folder

Setup will add program icons to the Program Folder listed below.
You may type a new folder name, or select one from the existing
Folders list. Click Next to continue.

Program Folders:

AMS ECLIPSE

Existing Folders:

3Com PC Card Utilities
Accessories
Adobe Acrobat
Adobe Acrobat 4.0
AMS ECLIPSE
AMS Link
AutoCAD LT 97 LDV
DesignCAD 3000
DesignCAD Pro 2000

< Back   Next >   Cancel

Install Wizard will then post a verification Window. If all is correct, click on the
"Next" command button. Go "Back" if changes are needed.

Start Copying Files

Setup has enough information to start copying the program files.
If you want to review or change any settings, click Back. If you
are satisfied with the settings, click Next to begin copying files.

Current Settings:

ECLIPSE-Link
ECLIPSE-Comm

< Back   Next >   Cancel
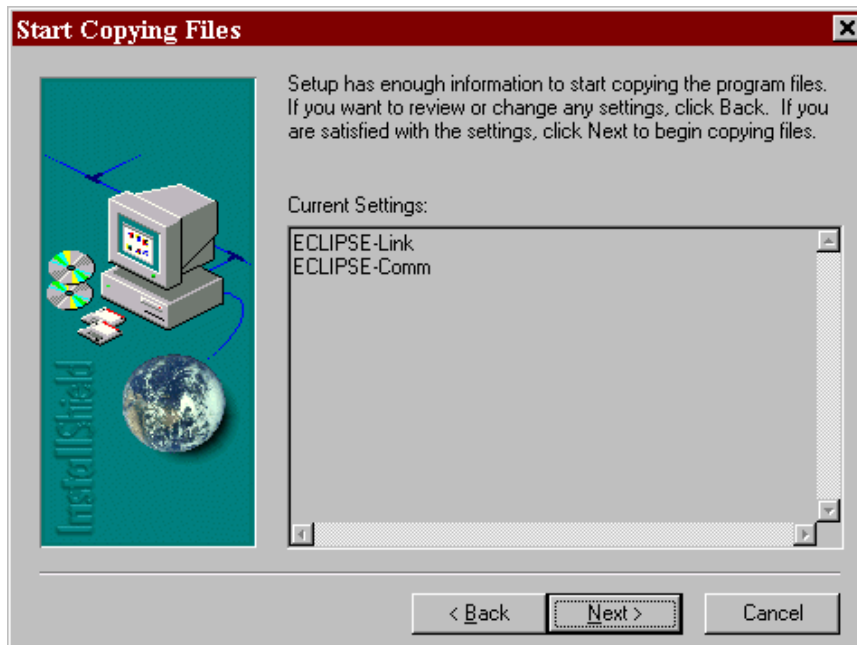
Selecting the "Next" command button will initiate the installation process for Eclipse. Two status windows will be displayed showing which files are loading and the percentage complete regarding the installation.

Copying System DLLs
c:\windows\system\foxpro.int

89 %

Cancel
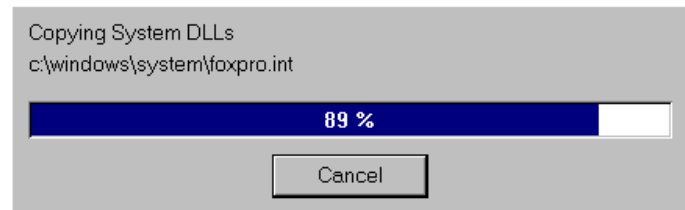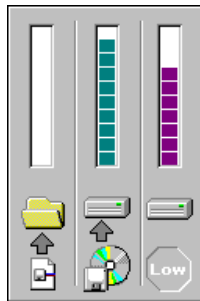
Once the loading is completed, a final installation window is displayed verifying the install. Simply click the "Finish" command button and the installation of the software will be complete.

Setup Complete

Setup has completed installing ECLIPSE

Click Finish to complete Setup.

< Back   Finish
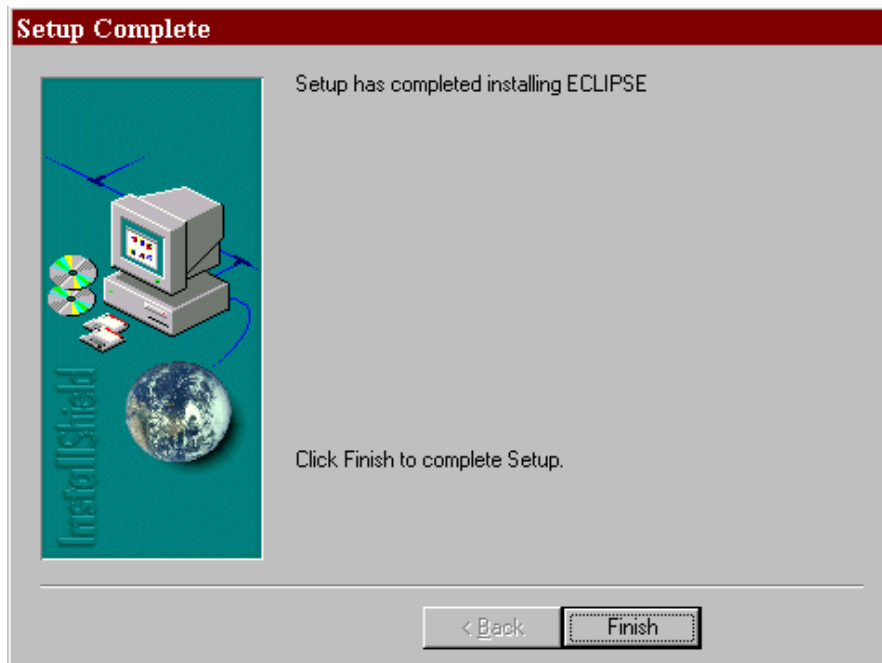
Starting Eclipse

Eclipse can now be started by clicking on the "Start" button on the lower-left hand corner of the PC screen. This displays a menu including the "Programs" icon. Select "Programs" to show the list of available programs on the PC and highlight "Eclipse". Once highlighted, an additional window opens with the selection of "Eclipse Link" and Eclipse Comm". Select "Eclipse Link". The program will initialize.

The Eclipse directory will also contain shortcuts that can be dragged and dropped onto the computer desktop (Main Windows Screen). These icons can then be used to start Eclipse.
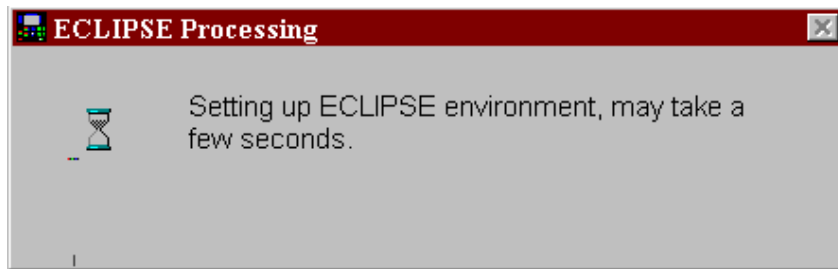
If Eclipse is being installed for the first time, the software must be activated. This involves entering the activation codes for different options within Eclipse. These codes will be issued with the software CD in the Eclipse package.

The following screen will be displayed. The user may activate the codes at that time, or he may "Exit" and start the program another time. Eclipse will not start without first activating the system.
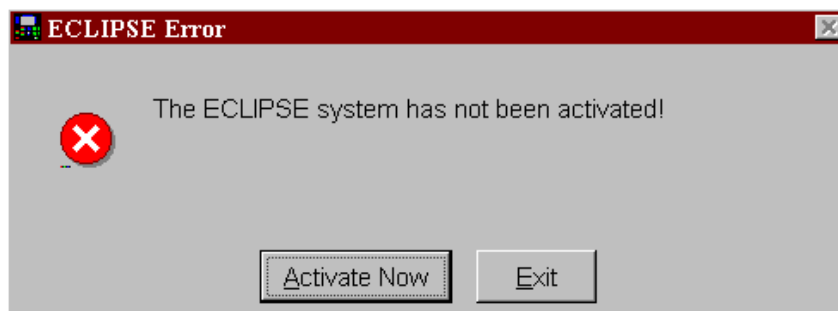
Once the user selects to activate the software, the following activation screen is displayed.

The activation code for each purchased option will need to be entered in order for the option to work in Eclipse.

When entering codes into the activation fields please pay close attention to the case of the letters; the codes are case sensitive. Also, make sure that a zero "0" is not mistaken as a capital "O" or vice versa. As each code is entered, a check mark will appear in the applicable box indicating the option is valid for standard or demo use. Carefully check the activation codes before clicking on the "OK" command button.

Upon entering the codes and a "Licensed to:" name, Eclipse will start up and display the status screen.

Windows Features

Eclipse software is a Windows based application and contains many special features that allow for maximum flexibility and ease in viewing, selecting, and modifying information. This section will help the user to understand these features so that they might be applied in practice.

These features can speed up the process of creating, processing and reporting information therefore making the Eclipse user that much more productive and satisfied.

Eclipse screens were designed to look and operate in a similar fashion Consistency between screens greatly reduces the learning curve for new users. The skills learned on one screen apply to every other screen in the software.

Screen Sizing, Scaling, and Positioning

Windows that are displayed on the screen can be resized in one of two methods. Each window has sizing tools in the upper right hand corner of its screen. Using your mouse, rest your cursor over the top of one of the symbols (also shown below). The function of the window will be displayed just under the cursor.

Maximize Window   Close Window

Minimize Window   Restore Window
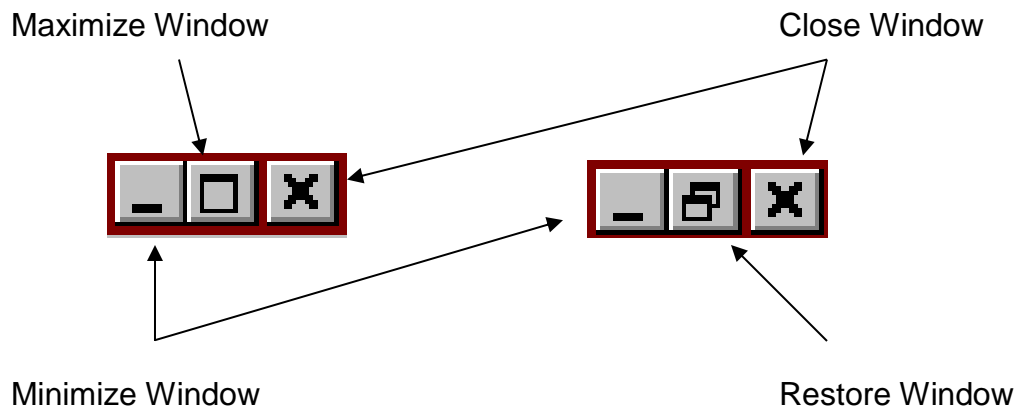
Each tool symbol performs one of several functions. Simply click on the desired tool to cause the function to occur.

There are four main control symbols that will be used on a window, each of these are shown in the previous example. Usually, only two or three of the symbols will be used on any given window.

Minimize Window   This causes the window to itself to be entirely hidden from view except for the available windows that are listed at the bottom of your windows screen. The screen is still active and available and can be immediately requested. Simply clicking on the window icon at the bottom of the screen will display it again.

Maximize Window   This will cause the window to fill the entire screen or to maximize its size. Internal maximum window sizes may be assigned to a given window; therefore it will not fill the entire screen.

Restore Window   This displays the window at it normal size. This may be a very small or very large window. It can also be changed by manually resizing the window.

Close Window   This will close the window. Closing a window is different than minimizing in that the information is no longer available without reopening the window from the source program.

If a window is already "Maximized" in its size, then it will not have the "Maximize" sizing icon available for use; instead the "Restore" icon is there to return the window to normal size. The reverse is true as well.

The next example shows a typical Eclipse window that has three windows displayed at the same time in one mode or another.

The Main status screen is shown as "Maximized". The Schedule Orders window is shown at its normal size or "Restored" size. Two other windows (Order Edits & Machine Tools) have both been minimized but are still shown as being active.

"Maximized" Window

"Restored" or Normal Sized Window

"Minimized" Windows
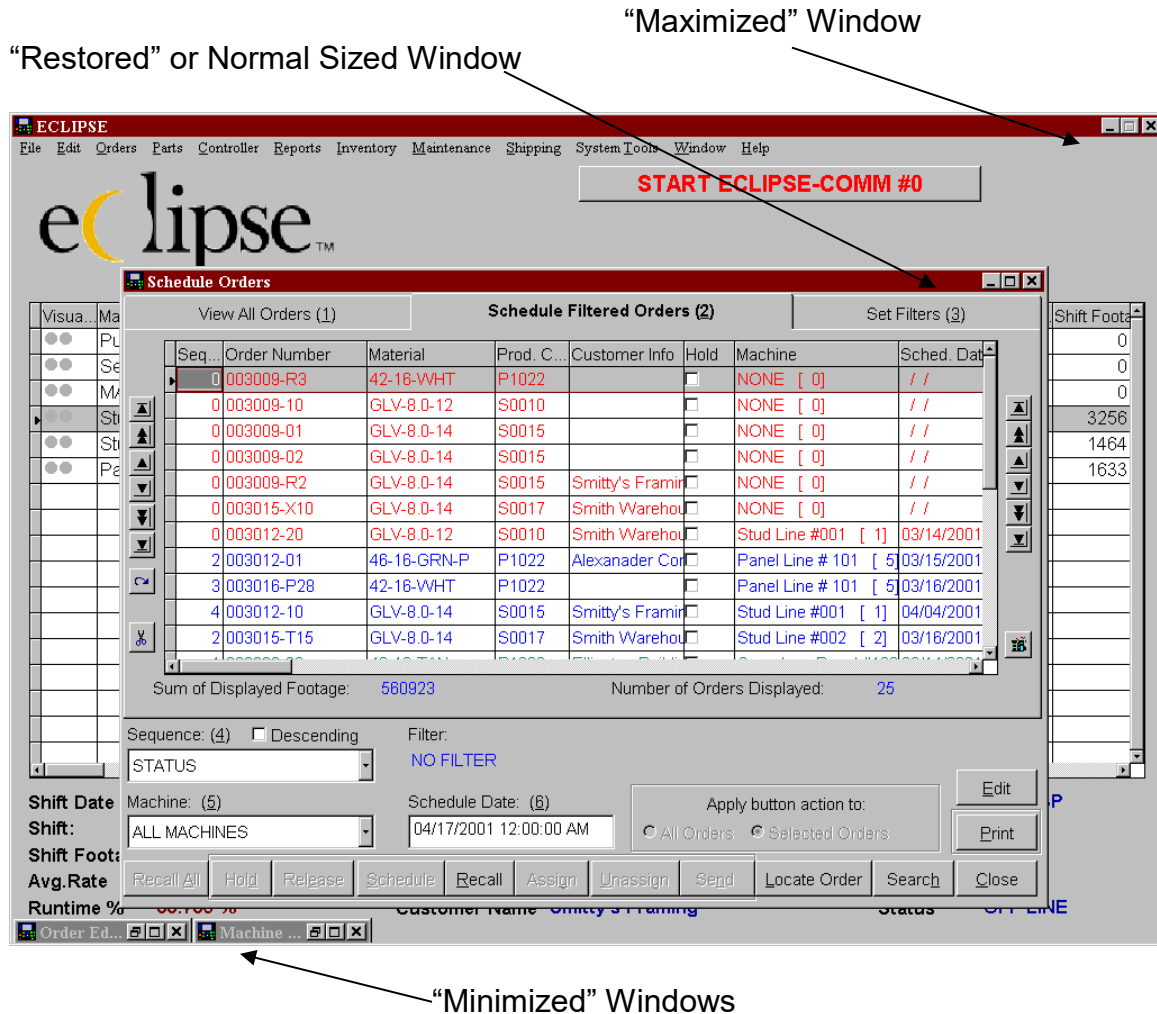
Windows can also be enlarged or compressed by manually resizing the window to a particular size. To resize in this method place the cursor arrow on the sides or corners of the respective window. Next the user will "drag" that portion of the window to a new location.

When the arrow is placed on the corner (or side), the cursor arrow changes into a two-headed arrow with the arrows goings opposite ways and in the direction that the window can be "stretched". Click the left-mouse button and hold it down. While holding the left-button down, drag the mouse in the desired direction. The user will see that the window changes size accordingly. See the examples that follow.

The entire window can also be moved within the screen by clicking on the title bar at the top of the window and dragging it to a new location.
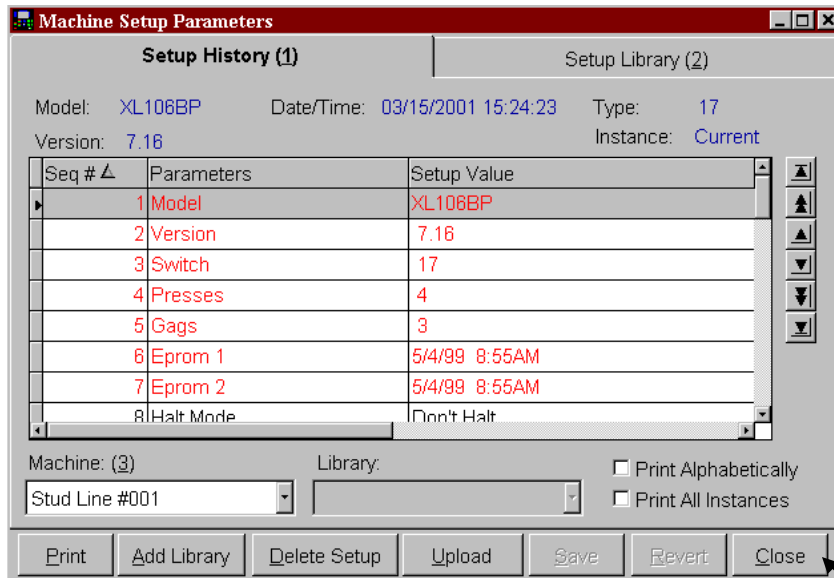
A typical window is shown above. The user may want to enlarge the window without maximizing it to cover the entire screen. Place the cursor in the corner of the window. The cursor will turn into a mirrored arrow. Click the left-mouse button and drag the mouse outward as the example shows below. A gray box will show the new size of the window.
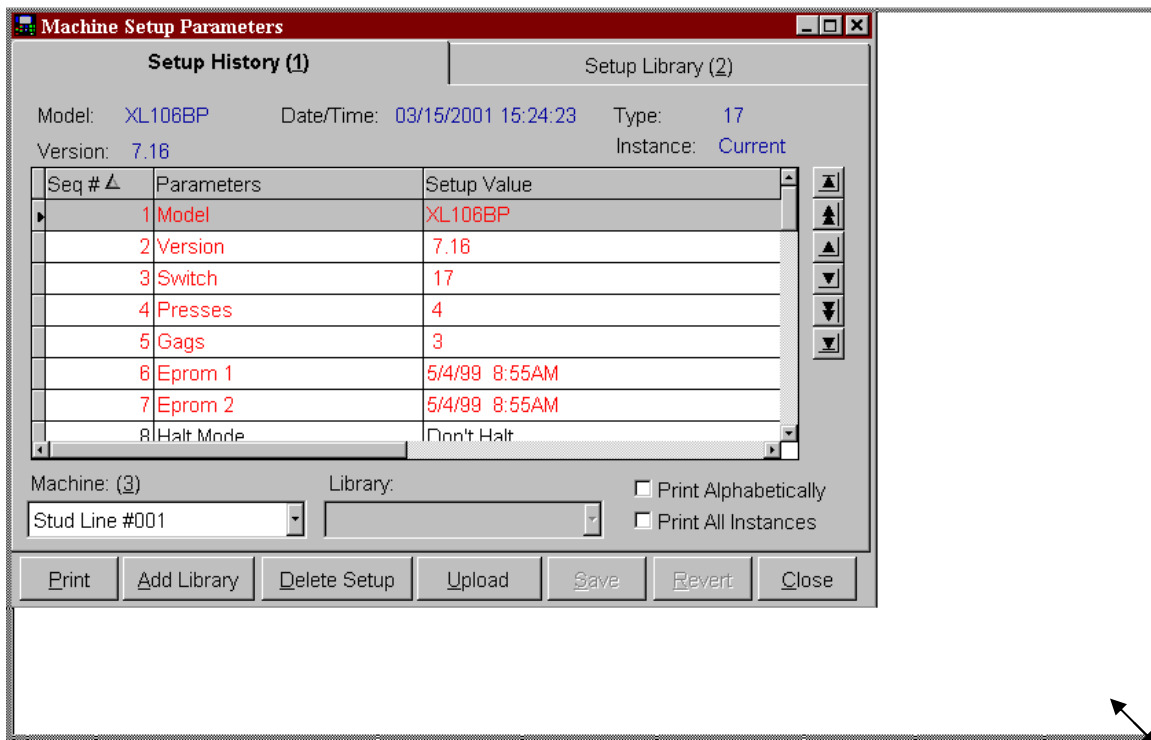
Once the box is the size you want the window to be, let go of the left-mouse button. The window is resized accordingly (shown below). When the corner of a window us drug, the entire window will increase or decrease in size proportionally. The same technique can be used to make a window smaller so that multiple windows can be viewed at one time.

Machine Setup Parameters					_ □ ×
Setup History (1)				Setup Library (2)	

Model:	XL106BP	Date/Time:	03/15/2001 15:24:23		Type:	17
Version:	7.16				Instance:	Current

Seq # △	Parameters	Setup Value	
1	Model	XL106BP	
2	Version	7.16	
3	Switch	17	
4	Presses	4	
5	Gags	3	
6	Eprom 1	5/4/99 8:55AM	
7	Eprom 2	5/4/99 8:55AM	
8	Halt Mode	Don't Halt	
9	Format	Decimal Inch	
10	Bundle Qty Reload Value	0	
11	Bundle Qty Count	0	
12	Set Done Items to Ready?	No	

Machine: (3)   Library:

Stud Line #001

☐ Print Alphabetically
☐ Print All Instances

| Print | Add Library | Delete Setup | | Upload | Save | Revert | Close |

If one of the four sides of the window is used, the height only (or width only) of the window can be changed.

Once the user changes the window size, the placement and dimensions of the window will be saved when the screen is closed. The next time the window is opened it will be the same as the user had set it.

Screen Controls

Eclipse uses many common tools in its windows. Among these tools are items for selecting information and causing actions to occur.

Drop Down Lists

The drop-down list provides a means of displaying several choices for a given item. In the example below, the user is being prompted for method of sequencing items in an associated table. There are 7 selections to choose from. The user clicks on the drop arrow, causing the list to be displayed. The user then clicks on the desired item and it is then displayed in the selection box.

Selection Box/List Closed   **Drop Down List Open**
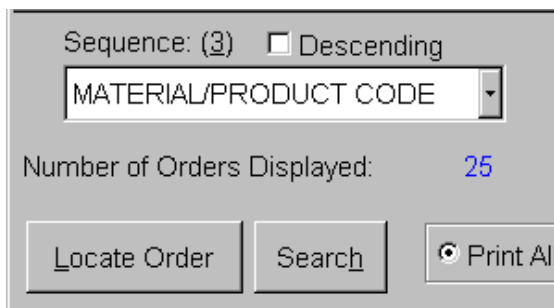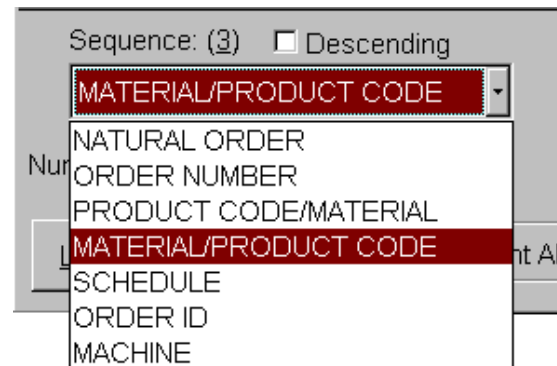
An Eclipse window may contain no drop down list on it, or the window may contain many lists. Only one item may be chosen from a given list at a time.

Command Buttons
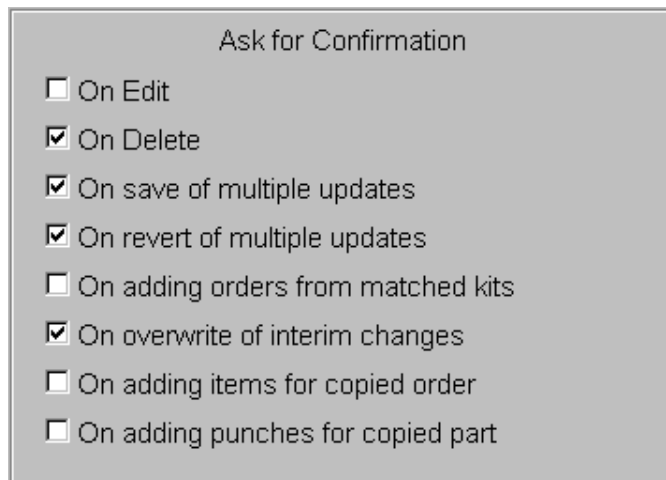
Command buttons tells the program to perform the associated function that is displayed on the button. For example, the "Print" command button will cause a report preparation function to execute with the results being printed on the default printer. An example of this and other command buttons is shown below.
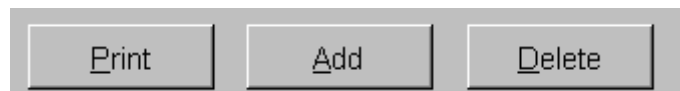
Check Boxes

Check Boxes are provided in order to create a selection or group of selections. If a particular box is checked, then the corresponding meaning displayed on the box is then considered "active". For example, a checked box may enable a command button or other feature for use by the user.

The following example shows one of the checkbox groups found in the "Settings" selection of the "Maintenance" menu. The information being sought is for which actions should confirmation be asked when tey are initiated? Note that multiple choices can be selected. Actions that are checked will be confirmed by a prompt, items not checked can be changed without the program verifying the users' intentions.
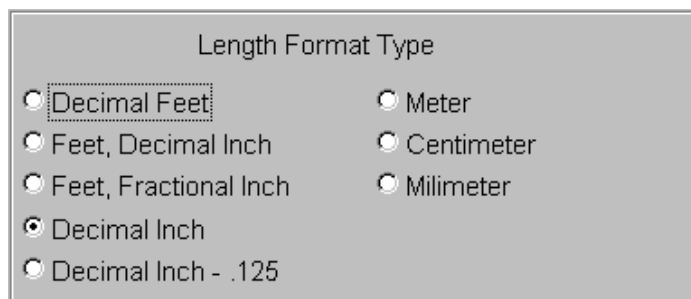
```
Ask for Confirmation
☐ On Edit
☑ On Delete
☑ On save of multiple updates
☑ On revert of multiple updates
☐ On adding orders from matched kits
☑ On overwrite of interim changes
☐ On adding items for copied order
☐ On adding punches for copied part
```

Option Boxes

Option boxes are very similar to checkboxes except that option boxes limits each option-box group to only one selection. The following shows an example.

```
Length Format Type
○ Decimal Feet              ○ Meter
○ Feet, Decimal Inch        ○ Centimeter
○ Feet, Fractional Inch     ○ Milimeter
◉ Decimal Inch
○ Decimal Inch - .125
```

Navigation Arrows

Navigation arrows are always located in the upper right-hand corner of the Eclipse window. assists the user in navigating through large amounts of information at one time. When accessing a table of information, the navigation arrows can move your cursor location by one or several items at a time by clicking on the respective icon. The same arrows may also navigate through blocks of data, such as different instances of parameters in the "Machine Setup Parameters" Window. The double arrow will move several items at a time. The more items that are in the database, the higher this number is.

Move to Top of List   ⟶

                       ⟵   Move Up "X" Items

Move Up One Item   ⟶

                       ⟵   Move Down 1 Item

Move Down "X" Items   ⟶

                       ⟵ Move to Bottom of List
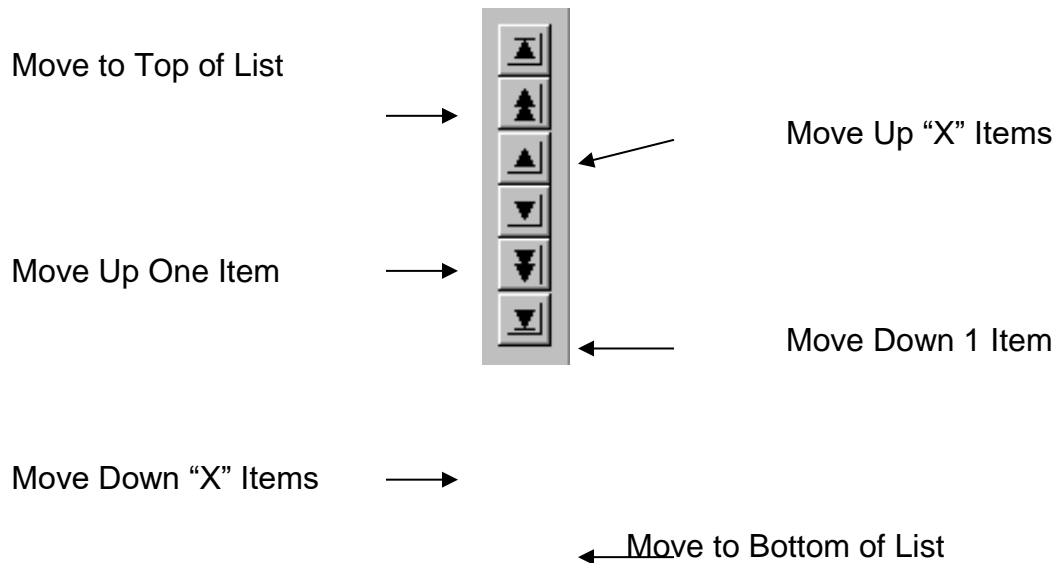
There is an exception to this however. In editing screens (Orders, Kits, Parts), an additional set of navigation arrows is included on the LEFT-HAND side of the screen. When located here, the arrows are used to move an item or group of items within the sequence. In the case of orders, an item(s) can be moved up ten spots in sequence by clicking on the double-up arrow.

Special Tools

Some screens have special icons that perform particular tasks.

"**Resequence to match current sort**".

Changes the sequence numbers to match the present sort selections.

"**Refresh Page**"

Refreshes the present page, cleans up data and sequence.

"**Relocate Orders Outside Filtered Range**"

Moves an order(s) to a new sequence position not included in the present filters.

Any given Eclipse screen may consist of only one or two screen controls or all of them. The below example has at least one representation of each of the groups just discussed.

"Move Sequence" Navigation Arrows

Special Tools

"Grid" Navigation Arrows

Check Box

Drop Down Lists

Option Box

Special Text Box

Command Buttons

The "Special Text Box" has a special feature in that it can activate a pop-up calendar for selecting date and time. Right-click on the text field to display the calendar window.

Information Grids

The data tables that are included on most screens contain records of information. This potentially vast amount of information can be limited in its scope by filters, changed in its sequence, and displayed in different orders and sequences.

Column Order, Sizing, and Sorting

Eclipse's windows can be modified by changing the structure of the window itself to suit the needs of the user. For example, a user uses relatively small descriptions in the product code screen. The user would also like to see the machine field without making the window any larger.

In the below example, this can easily be done by placing the cursor on the right hand line of the "Description" column heading. A double-arrow will appear. Press and hold the left mouse-button and drag the line to the left. This makes the "Description" column smaller, and pulls all of the fields to the right towards the left side of the screen, thereby exposing more field information within the window.
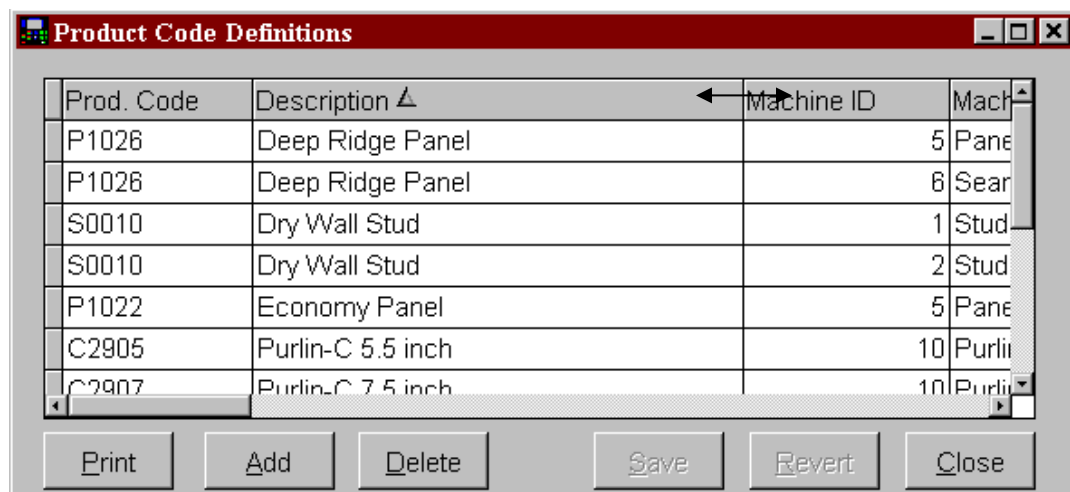
The example above shows the window before anything is done. The following example shows the "Description" field being smaller, and the "Machine" field being more prominent in the window.

Product Code Definitions

	Prod. Code	Description ▲	Machine ID	Machine
	P1026	Deep Ridge Panel	5	Panel Line # 101
	P1026	Deep Ridge Panel	6	Seamless Panel #102
	S0010	Dry Wall Stud	1	Stud Line #001
	S0010	Dry Wall Stud	2	Stud Line #002
	P1022	Economy Panel	5	Panel Line # 101
	C2905	Purlin-C 5.5 inch	10	Purlin Line # 201
	C2907	Purlin-C 7.5 inch	10	Purlin Line # 201

Print   Add   Delete   Save   Revert   Close

Not only can the columns be reduced or lengthened in size, but they can also be relocated amongst the other columns. One customer may desire to see certain column information in the first few columns, while another may desire different column information in the same location. This can be achieved by moving the columns to different positions.

Place the cursor on top of one of the column headings such as the "Machine ID" field. Now, press and hold the left-mouse button and drag the column header one column to the left. It will then take the place of the "Description" column and vice versa.

"Machine ID" field now here!
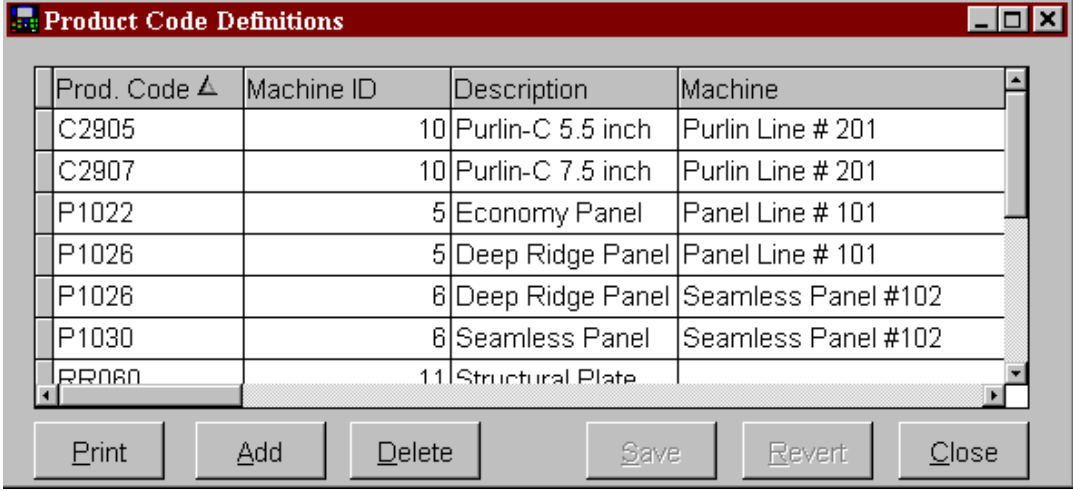
Product Code Definitions

	Prod. Code	Machine ID	Description ▲	Machine
	P1026	5	Deep Ridge Panel	Panel Line # 101
	P1026	6	Deep Ridge Panel	Seamless Panel #102
	S0010	1	Dry Wall Stud	Stud Line #001
	S0010	2	Dry Wall Stud	Stud Line #002
	P1022	5	Economy Panel	Panel Line # 101
	C2905	10	Purlin-C 5.5 inch	Purlin Line # 201
	C2907	10	Purlin-C 7.5 inch	Purlin Line # 201

Print   Add   Delete   Save   Revert   Close

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Note the small triangle in the "Description" column header on the previous example. This means that the entire table is "sorted" alphabetically by the designated column "Description". A different column can be selected for this sorting function. Simply click a different column header to transfer the sorting task to a different field.

For example, the triangular designator shows that the "Description" column is being used to sort the information. Click on the "Product Code" column header. The triangular designator now appears in that column. This means that all of the information in the table is now sorted by the new selection. See the window below.
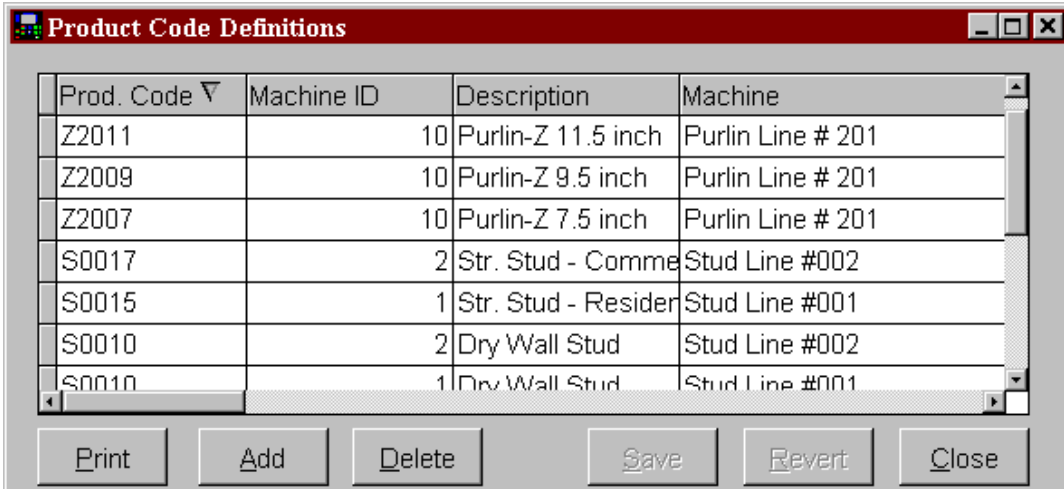
Product Code Definitions

Prod. Code ▲	Machine ID	Description	Machine
C2905	10	Purlin-C 5.5 inch	Purlin Line # 201
C2907	10	Purlin-C 7.5 inch	Purlin Line # 201
P1022	5	Economy Panel	Panel Line # 101
P1026	5	Deep Ridge Panel	Panel Line # 101
P1026	6	Deep Ridge Panel	Seamless Panel #102
P1030	6	Seamless Panel	Seamless Panel #102
PR060	11	Structural Plate	

Print   Add   Delete   Save   Revert   Close

The direction that the triangular designator points determines whether the sorting method is ascending or descending in order. Click on the "Prod. Code" column header a second time to reverse the sequence.

Product Code Definitions

Prod. Code ▽	Machine ID	Description	Machine
Z2011	10	Purlin-Z 11.5 inch	Purlin Line # 201
Z2009	10	Purlin-Z 9.5 inch	Purlin Line # 201
Z2007	10	Purlin-Z 7.5 inch	Purlin Line # 201
S0017	2	Str. Stud - Comme	Stud Line #002
S0015	1	Str. Stud - Resider	Stud Line #001
S0010	2	Dry Wall Stud	Stud Line #002
S0010	1	Dry Wall Stud	Stud Line #001

Print   Add   Delete   Save   Revert   Close

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Data Lists

Most Eclipse windows consist of some type of data table. Often, these tables are wider than the available screen permits to be shown efficiently. A feature that displays the full list of available columns has been included with Eclipse to make finding specific column data easy.

Right-click on any column header to display a full list of all column headers included in the window. The window below shows an example of this being done on the main status screen table.

This list is an active list of all the existing column headers. The user can highlight a specific selection within the list and press enter to move the table to that specific column. The cursor will be positioned in the highlighted record of the selected column.

These items can also be located by scrolling the scroll bar to the right (or left) to display columns that are presently off of the page.

In the case of the Main Status screen, many of the columns are also displayed with its corresponding information at the bottom of the page in the "sandbox". The information shown will reflect the status of the highlighted machine in the table. The contents of nine of the display fields in the "sandbox" are italicized and can be changed by right-clicking on the data

field. This will display a list of the available information that can be displayed at that location.
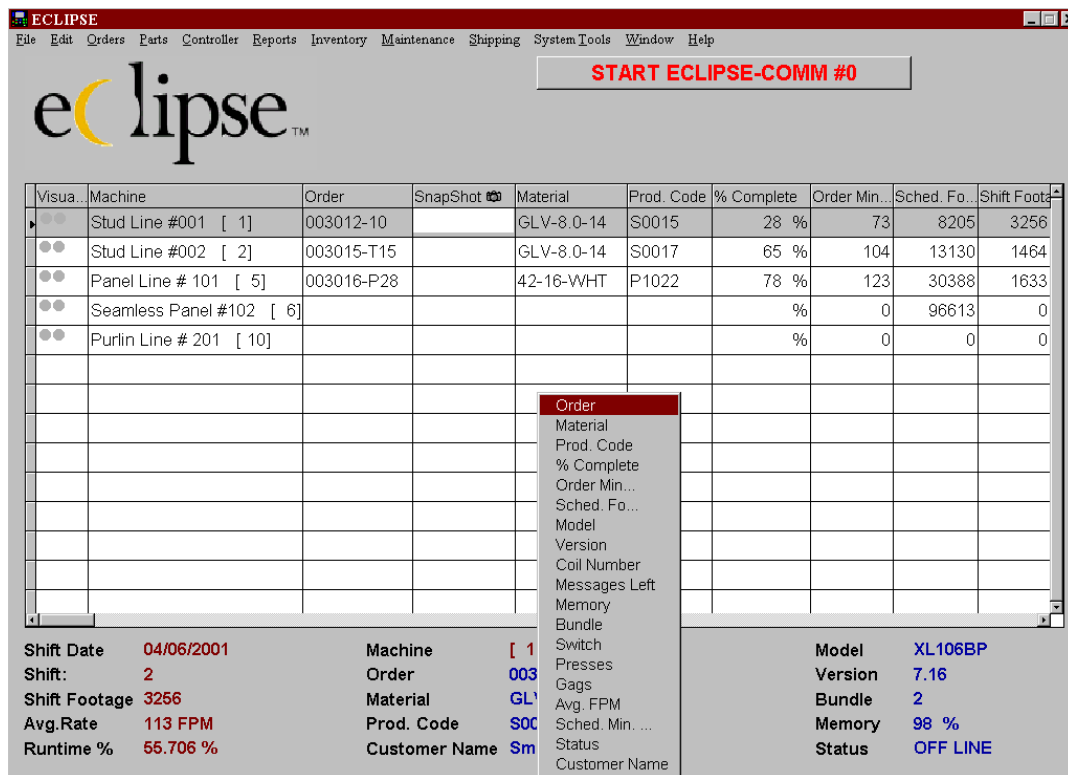
For instance, right-click on the Order field to display the selection list (as shown above). Highlight the "Coil Number" selection and press enter. This can also be done by clicking on the selection with the mouse. The Field showing the Order title and its information now becomes "Coil Number" followed by its corresponding coil number.

In this manner, the "sandbox" can be modified to show only the most desired information.

In the main status screen (only) the user may right-click on any portion of the screen (aside of areas designated for other functions such as tool lists and column headers) and be able to display a selection list to customize the screen view, start Eclipse-Comm or exit the program. Right-clicking on open fields in screens other than the main status screen will provide a list of the page's command buttons for selection instead of having to move the mouse to the desired position.

This feature enables the user to increase the font size within the tables, decrease the font size, or add and remove the grid lines. The example below shows the font increased 4 times and the grid lines removed. If the font is

changed, the user may desire to lengthen the column fields by dragging the column headers toward the right (as discussed earlier in this chapter).
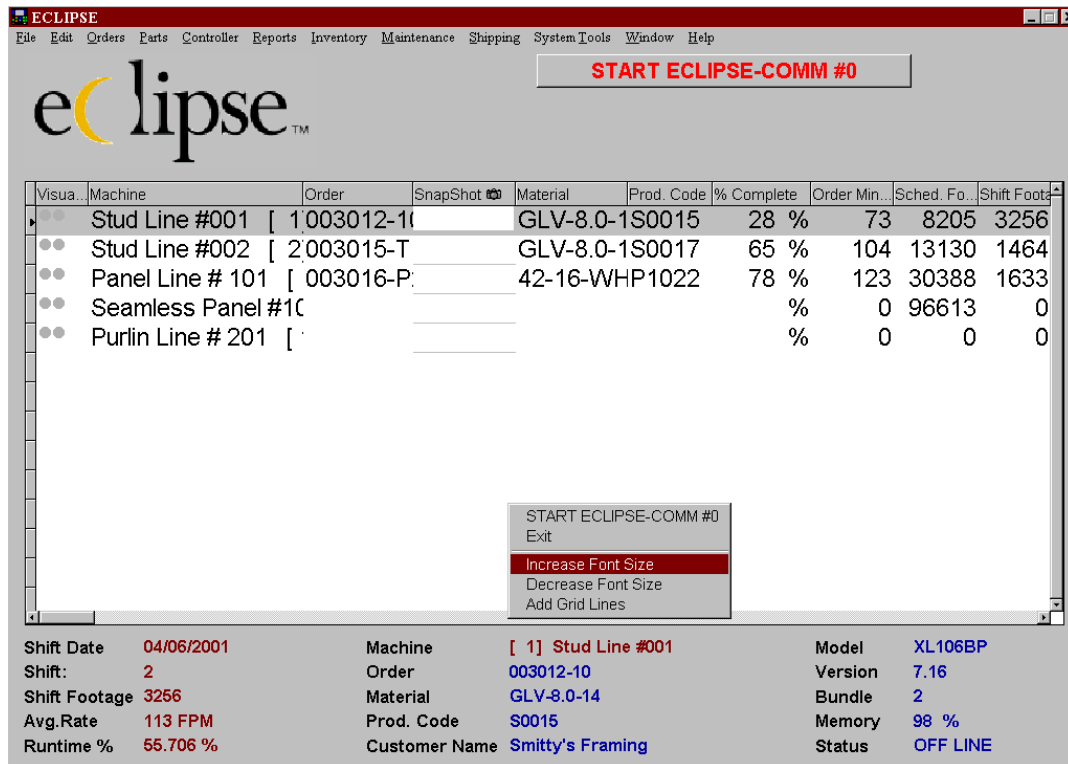
Eclipse-Comm may be started from the large command button in the upper right-hand corner of the display or from the "Start Eclipse-Comm #0" selection in menu. They will work the same way. The program may also be exited by selecting the "Exit" menu selection. This will close Eclipse but will not close Eclipse-Comm.

In windows other than the main status screen a right-click will open a list of available actions. Depending on the present screen, the allowable options will vary. Many of the windows will allow the user to change from one tabbed page to another, to print the table information or to command a specific function. Following are three examples, each varying in the options that this feature provides.

Example #1 – Product Code Special menu
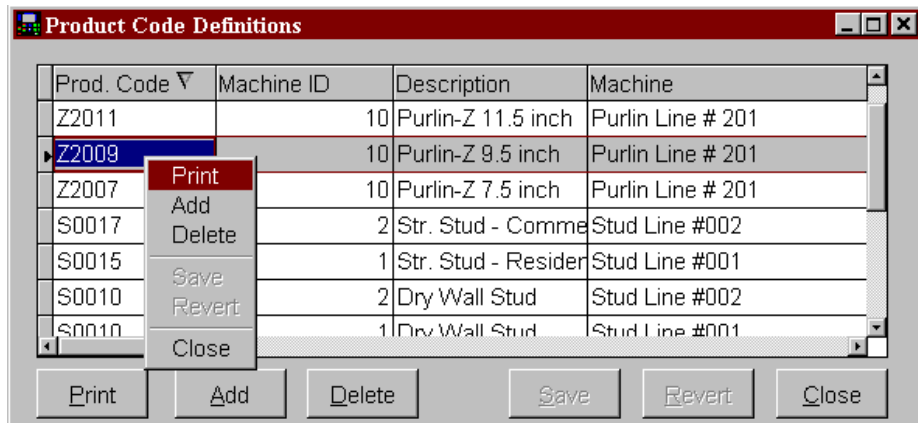
Example #2 – Machine Tool Setup Special Menu
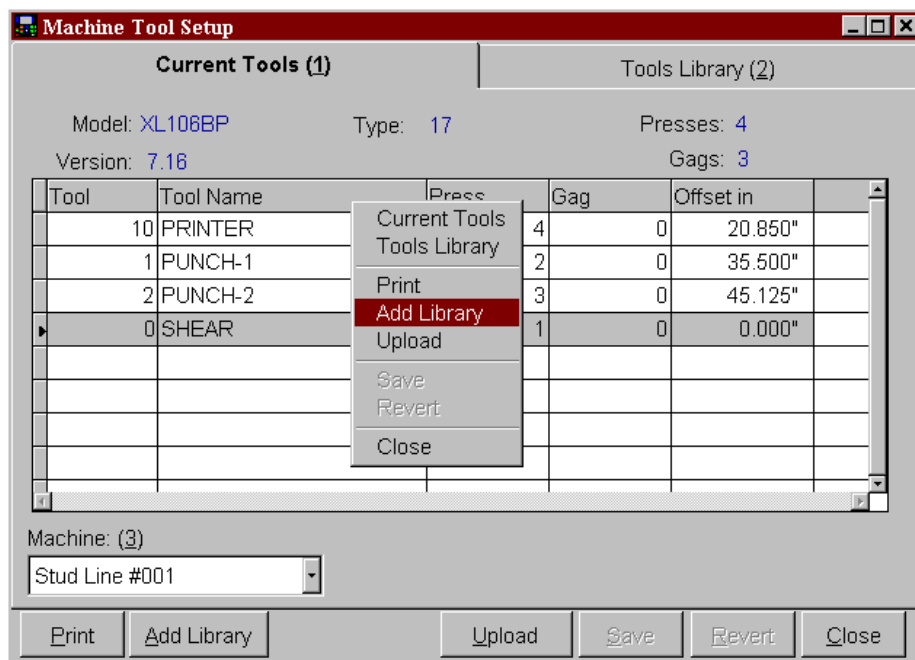
Example #3 – Part Definitions Special Menu
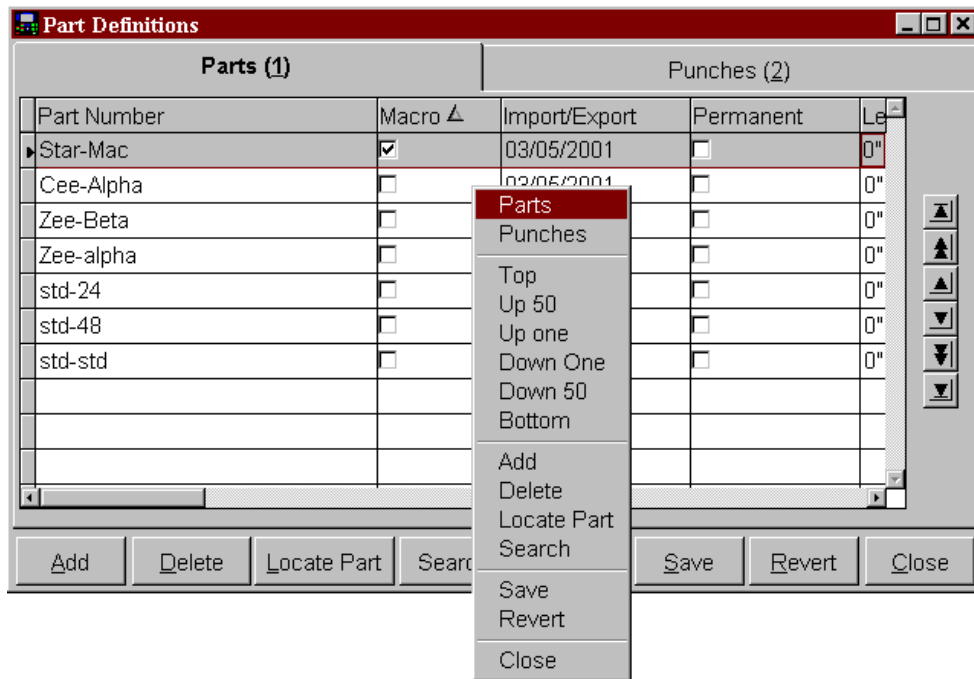
As you can see, right-clicking on the table in each of these windows produces a menu driven specifically for that screen. This creates an easy method for the user to access all tabbed screens and most tools from a single location.

Adding New Records

Many of the tables within Eclipse can have items added, deleted and edited. There are a couple of different ways to add records to any given table.

Press the "Add" command button

Click on the "Add" command button at the bottom of the window. In order to save entry time, Eclipse will prompt the user to either create a new, blank entry or to use existing data to create an entry with a base of information already entered. Let's use the "Coil Inventory" field for an example.

Most users often add coils that contain similar information to coils that have been entered in the past. To save programming time, the user can highlight a coil with similar attributes to the coil(s) that are about to be entered into inventory. The example below shows that a tan, econo-panel has been selected that used the material "42-18-Tan".

By clicking the "Add" button, the user will be prompted if they would like to "Use the highlighted record for a base?" If they select "No", a blank entry will be created and will require all necessary information to be entered.

If "Yes" is selected, a new record is created that contains all of the attributes as the previously highlighted field. The following window shows the newly created record. All that needs to be entered is a "Key" number. For the Coil Inventory table, this would be the "Coil Number".

Every record in every table has at least one unique field that identifies that specific record. In an order screen, the "Order Number," "Material Code" and "Product Code" are each key fields. In the machine setup data table, this would be the instance number. For the Parts table, it would be the part number, and so on.
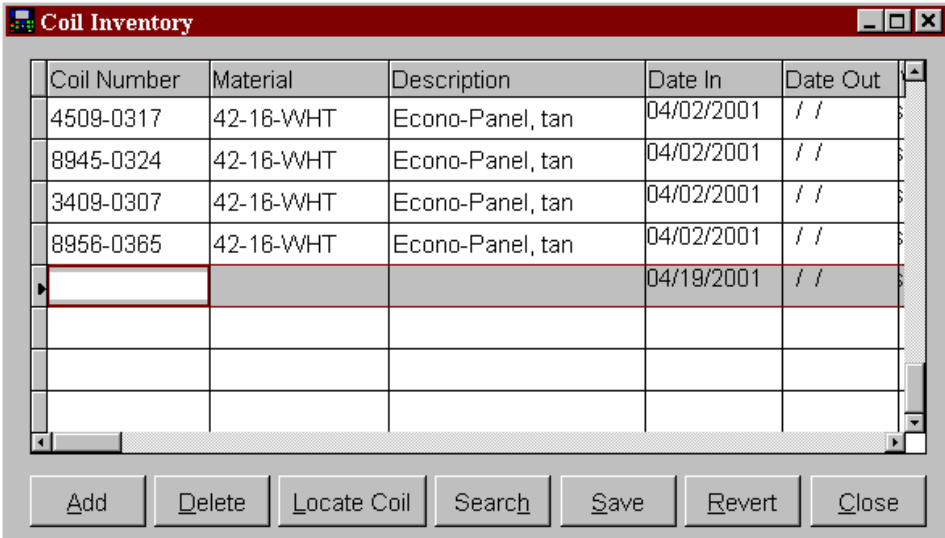
Coil Number	Material	Description	Date In	Date Out
3940-0913	GLV-8.0-14	8 inch galvinized, Comm	04/02/2001	/ /
3409-0956	GLV-8.0-14	8 inch galvinized, Comm	04/02/2001	/ /
8723-0198	SPW-.375-10.5	Plate, stuctural	04/02/2001	/ /
9898-0123	SPW-.375-10.5	Plate, stuctural	04/02/2001	/ /
7845-0398	42-18-TAN	Econo-Panel, tan	04/02/2001	/ /
8348-0329	42-18-TAN	Econo-Panel, tan	04/02/2001	/ /
8743-0390	42-16-WHT	Econo-Panel, tan	04/02/2001	/ /
	42-18-TAN	Econo-Panel, tan	04/19/2001	/ /

Add   Delete   Locate Coil   Search   Save   Revert   Close

Blank Entry

A new blank entry can also be simply added by highlighting the last record in the table and pressing the "down" arrow on the keyboard. A blank record will be created. Information will have to be input into all required fields. See the following example.

Coil Number	Material	Description	Date In	Date Out
4509-0317	42-16-WHT	Econo-Panel, tan	04/02/2001	/ /
8945-0324	42-16-WHT	Econo-Panel, tan	04/02/2001	/ /
3409-0307	42-16-WHT	Econo-Panel, tan	04/02/2001	/ /
8956-0365	42-16-WHT	Econo-Panel, tan	04/02/2001	/ /
			04/19/2001	/ /

Add   Delete   Locate Coil   Search   Save   Revert   Close

When exiting a record or the entire window and newly added record does not have all of the required information in it, a warning will be displayed to the user. The prompt will point out the error and ask the user to correct the entry or to delete it.

Selecting "Delete" will simply delete the record that was being added. If "Correct" is selected, the cursor will be placed in the incorrect field and the user can edit the entry to satisfy the requirement.

In the example below, the new coil inventory entry lacked the required coil number. The user has to choose one of the two options before continuing.
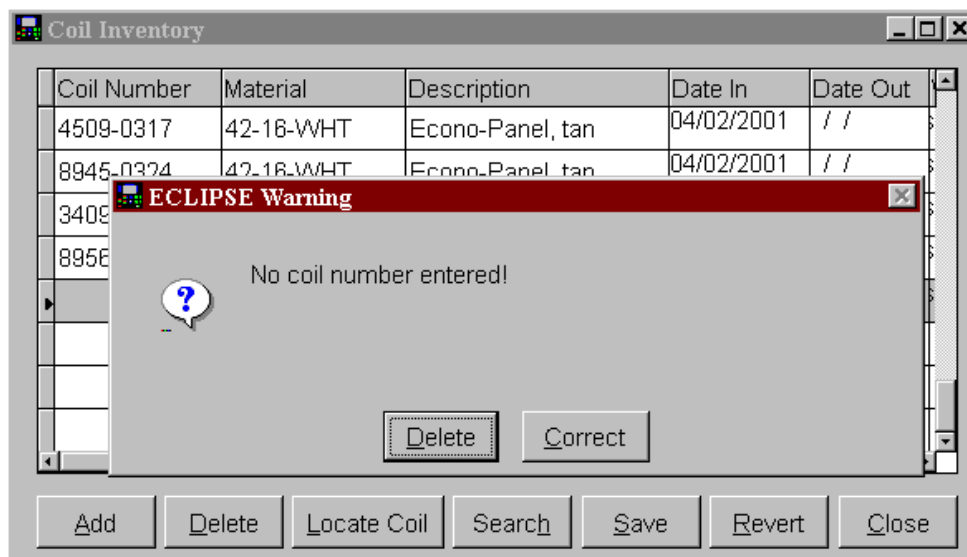
Saving and Reverting Changes

Once a record(s) is created, the user will need to save the new information before exiting the screen. This is done by left-clicking the "Save" command button at the bottom of the window. The Save command button is only enabled when there is information that needs to be saved. If there is no new information, the button will be grayed out.

The "Revert" command button will cause all changes since the last save to be canceled. If 5 records are created and then saved, then 5 more are created, there will be a total of 10 new records for that table. If the Revert command button is initiated at this time, the last 5 records will be removed permanently. All records that were previously saved are still intact

If the user attempts to leave the screen before saving or reverting new table information, an error will be displayed to either save the information, revert the information or to cancel the decision to leave the screen at that moment.

The following window shows what type of error would occur on our coil inventory example.
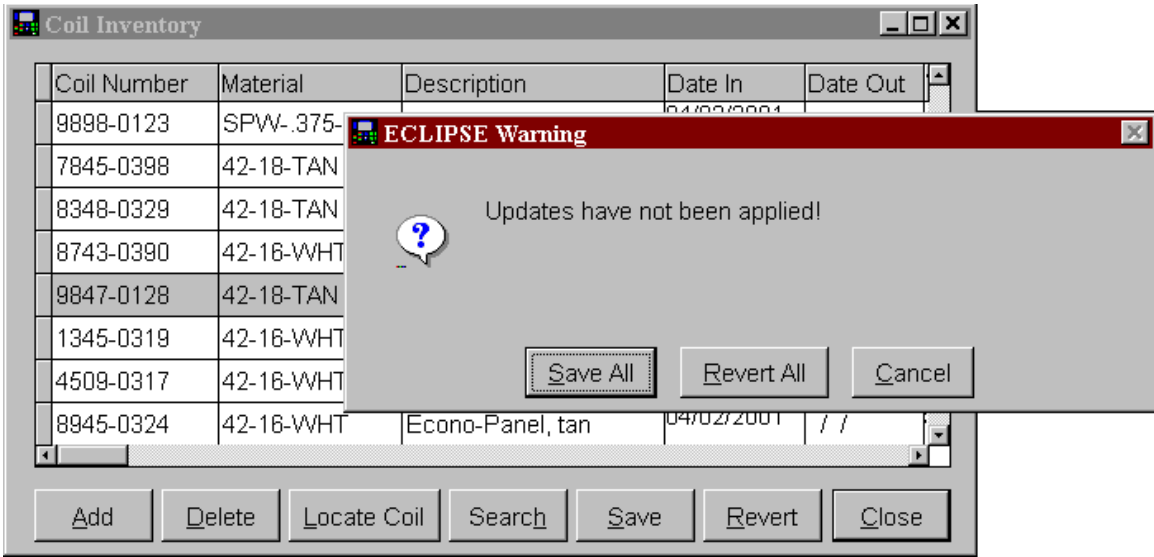
Editing Records

Many of the larger tables can access different editing screens by double-left clicking on specific fields within the table. For example, the following window displays the Main Status Screen. Double-clicking on the "Machine" field will cause the edit screen for "Machine Definitions" to be displayed. The fields within this window can now be modified or left unchanged at the user's discretion.

This feature is common on many of the available tables within Eclipse, although each table may vary as far as which fields can access the edit tables. If the desired field does not have the ability to call for the associated edit screen, the following prompt will be displayed.

Locate and Search Functions

Locate

Specific Records can be easily found by using the *"Locate Part"* or "*Search*" buttons. The Locate command button is used when all or part of a "key" number is known. A key number would be the name or number that is unique to a particular record. "Order Number", "Part Number", or "Coil Inventory Number" are each examples of a "Key" field.

For example, when in the "Order Edits" screen you can search for all order numbers that starts with or contains "003016" anywhere in them. The following screen shows the related example that produces two matches. Select the desired item from the drop down list and press the "OK" button.

The total number of matches will be displayed on the bottom of the locate window. The actual matches are shown in the drop-down select box. The number of matches that can be viewed is limited by settings found in the Settings Selection under the "Maintenance" main menu. The Settings selection contains several tabbed pages. The specific settings for search and locate are found under the "Display" tabbed page under "General".

The minimum number of characters before looking for matches and other settings are also included in the settings in order to narrow or widen the scope of the search function. The scope should be narrow enough to easily locate data without have to scroll through excessive information, yet wide enough to capture all information that might be desired.
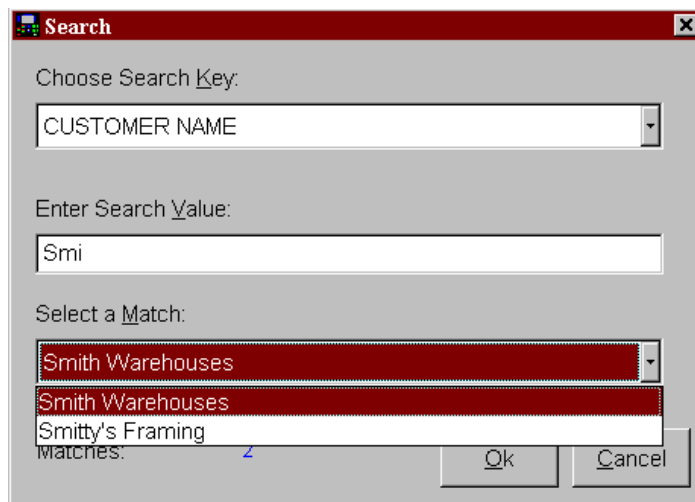
It is also possible to locate an item that has particular characters in the middle or end of its name or number. The comparison method of "beginning" or "anywhere" can be selected on this window. If the user is looking for three

letters "PRI" in order to find the company of "**Pri**ority Builders", then "Beginning" mode should be selected. If the same letters are sought to locate the name "Enter**pri**se" then the "Anywhere" mode should be selected since the letters "pri" are located in the middle of the name.

Search

The second method for finding a record is the "Search" button. Rather than finding a record by the key number, it looks for records by associated attributes. Almost any column included in the record can be used as the search criteria.

In the "Order Edits" search screen example below, the "Customer" column is being searched for a name beginning with "Smi". Two matching customers were found and will be highlighted on the "Schedule Orders" screen.

Orders

The "Orders" menu selection allows the programmer to enter order information. Additionally, entire kits (purchased as a separate software module) can be easily programmed to produce cutlists that can be processed repeatedly. An entire scheduling format is provided to allow automatic downloading of orders without any further programmer intervention. A special screen for sending messages directly to an operator via the controller is also provided.

Schedule Orders

The "Schedule Orders" selection is used to manually download orders to a controller, as well as set up the framework for downloading jobs automatically, at predetermined times, when requested by the machine operator, or when the footage at a controller drops below a specified threshold.

The top section of the Schedule Orders screen consists of three tabbed pages including "View All Orders", "Schedule Filtered Orders", and "Set Filters". These will be discussed later in this chapter. The bottom section of the Schedule Orders screen consists of the command buttons and selection lists. These controls will be used in at least one of the three tabbed pages, so we will cover them individually. If the command button is "grayed" out it is not enabled for use in the active screen.

Sequence: (4) ☐ Descending	Filter: NO FILTER		
STATUS ▾			Edit
Machine: (5)	Schedule Date: (6)	Apply button action to:	
Stud Line #001 ▾	03/19/2001 12:00:00 AM	○ All Orders ● Selected Orders	Print
Recall All │ Hold │ Release │ Schedule │ Recall │ Assign │ Unassign │ Send		Locate Order │ Search │ Close	

"Orders" Page Control Description

Sequence This selects the sequence in which the orders will be displayed on pages 1 and 2. Selections such as Order Number, Material, Schedule Date, and Product code are just a few examples of what selections are available in this drop-down list.

Descending Controls whether the sequence will be shown in descending or ascending order of the value that is selected in the "Sequence" drop-down list.

Machine Selects which orders will be shown. The orders for a particular machine can be selected or orders for all machines can select from this drop-down list.

Schedule Date The date for scheduling jobs is selectable by this setting. Dates and times can be manually edited. Double-clicking on the text box will cause a calendar window to be displayed. Clicking on the date and time of your choice will create the new schedule date.

Select a Date and Time ✕

March, 2001

Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

<<	<	>	>>

Hour 12 ▴▾   Minutes 0 ▴▾

Ok   Cancel

Filter This displays (read only) what filters have been selected for displaying orders. The appearance of "Material" and "Product Code" in this location indicates that only orders with specific Material and Product Codes will appear on page 2. See page 3, for the specific codes used in the filter.

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Apply Button Action To:

- **All Orders**   This will cause commands that are activated at the bottom of the screen to be applied to all orders shown on page 2.

- **Selected Orders**   This will cause only the selected orders on page 2 to be considered when the control buttons at the bottom of the screen are activated.

Buttons:

Recall All	Causes all orders that are at the selected machine to be recalled and set to unscheduled status.
Hold	Sets the selected orders to a "holding" status. Although their status will not be affected, they will not be downloaded until they are "released".
Release	Releases selected orders from the "Hold" status discussed in the previous paragraph.
Schedule	This button causes the selected orders to be scheduled for download. The date and time that they are scheduled for is the date and time entered in the "Schedule Date" entry box just above the "Schedule" button. This action also assigns a sequence number to the orders (see "Assign" below).
Recall	Recalls selected orders from the controller. This will set all selected orders that have a status of "Machine" back to "Unscheduled".
Assign	Assigns a sequence number to the selected orders. The next higher number after the last previously assigned or scheduled order is given to each selected order in the sequence they are listed on the screen. This sequence number determines the order in which the sequenced and/or scheduled orders are downloaded upon the request from the applicable machine controller.

This can be automated through the "Minimum Footage" parameter on the controller or be done |
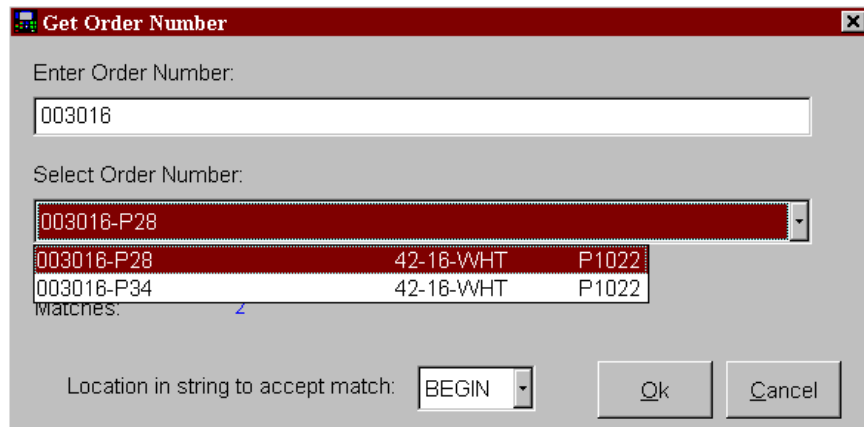
manually by the machine operator using the "Request Order" screen at the machine.

Upon being assigned, the Status will change to "SEQD" for sequenced. When the order is downloaded to the controller, the status will change to "Machine".

Unassign	Takes the selected orders that have a status of "SEQD" and sets them back to a status of "Unscheduled".
Send	Activating the "Send" button causes any selected orders to be immediately downloaded to their assigned machines.
Return	Flags the selected orders to be returned to the originating system and then deleted from Eclipse.
Edit	This will open the Order Edit form and focus on the selected order for viewing details or making changes.
Print	Causes the cut-list for the selected orders to be printed.
Close	Closes the "Schedule Orders" window.

Locate Order

Orders can be easily found by using the *"Locate Order"* or *"Search"* buttons. The Locate Order command button is used when all or part of the order number is known. For example, you can search for all order numbers that start with or contains "003016" anywhere in them. See below for a similar example that produces two matches.
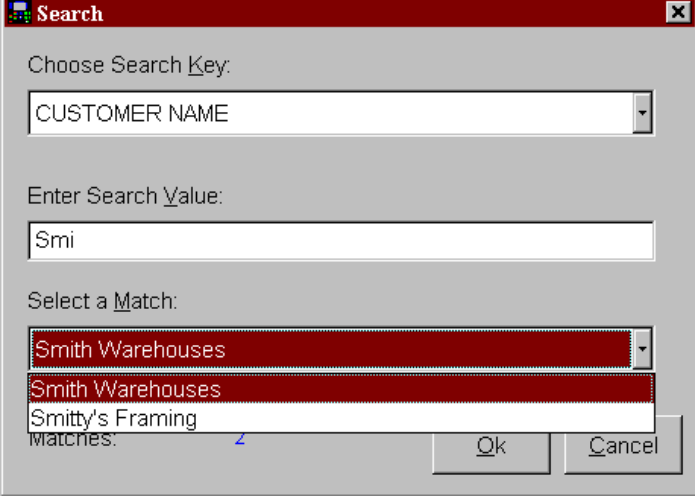
The number of matches will be displayed on the bottom of the locate screen. All of the actual matches are shown in the drop-down select box. To find the desired order, select it from the list and press the "OK" button.

It is also possible to locate an order that has particular characters in the middle or end of the part number. The comparison methods of "beginning" or "anywhere" can be selected on this window.

The minimum number of characters before looking for matches, and the maximum number of matches to display in the drop-down list are all options that can be changed in the Settings screen under the Maintenance menu.

Search

The second method for finding an order is the "Search" button. Rather than finding an order by the order number, it looks for orders by attributes such as "Schedule Date", "Material", etc. A number of columns are available to be used as the search key. In the screen below, the "Customer" column is being searched for a name beginning with "Smi". Two matching customers were found and whichever is selected will be highlighted on the active order display page.

Schedule Filtered Orders

This is the main scheduling screen where orders are managed in the production control process. The orders that are shown on this tabbed page are orders that can be run or have been assigned/scheduled to be run on the specified machine and that fit the filter requirements set on the "Set Filters" tabbed page. All the control buttons at the bottom of the screen can be applied in this screen depending on the status of selected orders.

"Schedule Filtered Orders" Column Descriptions

Order Number	The order number is used to distinguish one order from another. It can be a customer sales order, a shop/work order, or other designation.
Material	The material code identifies the type of material to be used for this order.
Product Code	The product code defines the machine tooling needed to produce the order. This is used in conjunction with the product code-machine pairings to determine which machines an order can be sent to.

Hold   Orders that are on hold will not be sent to   the XL controller.

Length Ft.   Total linear feet (meters) in the order.

Remaining Ft.   Remaining feet (meters) left to run for the order.

Status   The status for an order can be one of the following: Unscheduled (UNSCHED), Sequenced (SEQD), Scheduled (SCHED), MACHINE, or DONE. SENDING, RECALL, or RETURN are temporary statuses while requested processing is pending.

UNSCHEDuled orders are awaiting assignment to a XL controller by either sequencing and/or scheduling. SEQuenceD orders will be assigned to a machine, but not yet sent. SCHEDuled orders are setup to be sent to the controller on a particular date and time if not sooner. Orders with a status of MACHINE are at the XL controller. Orders are DONE when the quantity done is equal to or greater than the programmed quantity for all of its items. A status of RETURN indicates the order is to be sent back to the originating system for changes. Orders with a status of SENDING or RECALL are in the process of being sent to or recalled from the XL controller.

Sequence   The sequence number determines the order in which orders are sent to a controller on an auto-request or when more than one order is scheduled to be sent at the same date and time.

Import   Date that the order was imported/added into Eclipse.

Machine   The ID number for the machine this order has been either sent or assigned to.

Schedule Date   Date and time when the order needs to be sent to the chosen machine.

Complete   Date the order was completed. This is used to determine whether or not a completed order

can be deleted.

Last Prod	The last date any production activity occurred for the order.
Loading Dock	This field identifies the loading dock from which the completed order is to be shipped.
Staging Bay	Defines the preparation area for the order.
Customer Name	The name of the customer that the order has been sold to.
Address 1	The first line of the street address for the customer.
Address 2	Provides the second address line, if applicable, for the customer.
City	The city where the customer is located.
State	The State where the customer is located.
Zip Code	The Zip Code for the customer.
Country	The Country where the customer is located.
Ship Instructions	Text explaining how the order is to be shipped.
Bundle Label	Indicates a specific print message format name to be used for printing "Bundle Tags" for this order
Part Label	Indicates a specific print message format name to be used for "Print on Part" labels for this order
Type	Hole count orders will show an "H"
User Fields 1 thru 5	There are 5 user fields that can be enabled and used. Each field can be customized and renamed. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the Maintenance menu.
Work Order	A field giving the user an additional means of identifying and tracking a specific job or group of jobs as they relate to internal work authorization controls. This field can be used in addition to the "Order Number" field, but is not required.

To Schedule a job for a specific date

1. Select the appropriate date and time on which you would like to run one or more orders in the "Schedule Date" box.

2. Highlight the orders that you wish to run on that particular date.

3. Click on the "Schedule" button. This will cause all highlighted orders to have the specified schedule date and time assigned to them and their status will be changed to "SCHED". They will also be assigned a sequence number as described in the "Assign" button section above if they do not already have one.

4. Once the date arrives and the programmed time is achieved, the order will be download automatically as long as Eclipse-Comm is running and the controller is on-line.

5. If the user desires to remove the schedule date from an order or group of orders, simply highlight the order(s) and click on the "Recall" button. The status of the order(s) will change to "SEQD" or assigned.

To set an order so that it can be requested by the controller

1. Highlight the desired order(s).

2. Click on the "Assign" button at the bottom of the page.

   The status of the selected order(s) will be changed to "SEQD" for sequenced. Orders that are already scheduled, status is "SCHED", will not be affected. As each order has its status changed to sequence, the order is then assigned the next available sequence number by machine.

   Orders with a status of "SEQD" or "SCHED" can be requested manually or automatically. Automatic download of additional orders can be set to occur anytime the total footage in the controller gets below a pre-programmed level. This value is set in a controller parameter called "Minimum Footage to Request Order". Eclipse has a parameter that will specify the amount of order footage that will be sent upon request if it is available. This setting is found in the "Machine Definitions" Screen located in the "Maintenance" menu.

3. If the user desires to remove the status of "SEQD" from an order or group of orders, simply highlight the order(s) and click on the "Unassign" command button. The status of the order(s) will change to "UNSCHED" or unscheduled.

To Send or Recall an order immediately

1. To immediately download orders, highlight the order(s) that need to be sent

2. Click on the "Send" button

   The status of the order(s) will change first to "SENDING" and then to "MACHINE" when transmission is accomplished.

3. To remove an order from the machine, highlight the order(s) that you want removed from the controller and click the "Recall" button

   The status of the order(s) will change first to "RECALL" and then to "UNSCHED" when transmission is accomplished.

4. If the user desires to recall all orders from a machine, click on the "Recall All" button. All orders for the selected machine will be set back to a status of "UNSCHED" and are removed from the XL controllers.

View All Orders

Seq...	Order Number	Material	Prod. C...	Customer Info	Hold	Machine	Length Ft.	Status	Sched. [
0	003009-01	GLV-8.0-14	S0015	Smith Warehou	☐	Stud Line #001 [1]	17600	DONE	03/09/20
2	003009-02	GLV-8.0-14	S0015	Smith Warehou	☐	Stud Line #001 [1]	11437	MACHINE	03/09/20
3	003012-20	GLV-8.0-12	S0010	Smith Warehou	☐	Stud Line #001 [1]	25200	MACHINE	03/14/20
4	003012-21	GLV-8.0-12	S0010	Smith Warehou	☐	Stud Line #001 [1]	25200	SEQD	/ /
5	003012-33	GLV-8.0-12	S0010	Smith Warehou	☐	Stud Line #001 [1]	25200	SEQD	/ /
0	003009-R2	GLV-8.0-14	S0015	Smith Warehou	☐	NONE [0]	11437	UNSCHED	/ /
0	003012-10	GLV-8.0-14	S0015	Smith Warehou	☐	NONE [0]	11437	UNSCHED	/ /

Tabs: View All Orders (1) | Schedule Filtered Orders (2) | Set Filters (3)

Sequence: (4) ☐ Descending
STATUS

Filter:
NO FILTER

Machine: (5)
Stud Line #001

Schedule Date: (6)
03/15/2001 12:00:00 AM

Apply button action to:
○ All Orders   ○ Selected Orders

Edit
Print

Recall All | Hold | Release | Schedule | Recall | Assign | Unassign | Send | Locate Order | Search | Close

This tabbed page is used to view all orders for the selected machine or for all machines depending on what is selected in the "Machine" drop down list regardless of the filter selection.

The Sequence and Machine drop down lists are enabled on this screen, as are the Locate Order button, Search button, Close button, and Edit button. All other command buttons are disabled.

Set Filters

The "Set Filters" page will set up which orders will be displayed for scheduling on the "Schedule Filtered Orders" screen. Orders are filtered (selected) by choosing only orders with specific attributes. In the example screen above, only orders with a product code of "S0010" or "S0015" will be displayed on the "Schedule Filtered Orders" screen. This narrows down the amount of data that must be viewed by the user and expedites getting orders from the pc to the machine.

Selecting Filtering Criteria:

1. Select that attribute you wish to filter by in the "Filter Field" column in the data table. More than one field can be selected to be included in the filtering scheme, but they must be selected one at a time.

2. Once a field is selected, click on the "Select" command button located to the right of the data field. This will bring up a new window called "Select Values for Filter".

3. A list of choices will be given on the left-hand side of the screen. These are the available selections for the specific machine that the filter is being set up for. Select your choice(s) by highlighting the specific items you wish to filter by.

4.   Once highlighted, click on the "Add" button. This will add the selected item(s) to the right-hand side of the screen for selected filters. If all items on the left-hand side are desired, then click on "Add All". Likewise, "Remove" and "Remove All" can delete a single item or all items out of the filtered section.

5.   Once the selections are made and the user is satisfied, click "OK" to apply the filters. If the user does not desire to keep the filters as they are, then clicking on "Cancel" will close the screen without making any changes. The selections that were just made will not apply.
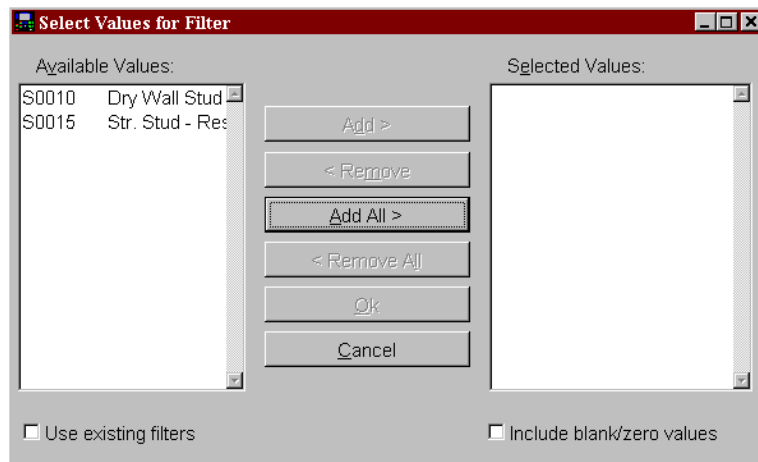
6.   Click on the "Use existing filters" checkbox in order to limit the available values to those that meet any other active filters already selected.

7.   Click on the "Include blank/zero values" if you wish to select any items that may contain an empty field or a field that is set to zero.

If Selecting a Range of Sequence Numbers

The user may desire to select a range of orders that are set to a status of "SEQD" (or Sequenced). Highlight "Sequence" from the Filter Field

1. Click on the "Select" command button. This will open up the "Select Value for Filter" window.

2. You will be given a choice of selecting. Select the desired filter setting:

   - **Assigned:** Selects all orders that have been assigned and now have a status of "SEQD".

   - **Not Assigned:** Selects all orders that presently have not been assigned and have a status other than "SEQD".

   - **Range:** Selects a range of ASSIGNED jobs by their Sequence number.

3. If "Range" is selected from the filter fields and the selection is Okayed, then the "Sequence Range" field is enabled on the "Set Filters" screen. See the window below.

4. The "Sequence Range" will provide a starting Sequence number and an ending sequence number. This can be used to select only a finite range of assigned orders. Most often, the user will want to see the assigned orders that will be downloaded in the immediate future.

5. The "Reset Low-High" command button will set the low and high sequence limits to present lowest and highest settings. If there are 150 assigned orders, this will adjust the low setting to 1 and the high setting to 150. The user can still then program 35 into the high setting to display the 35 highest priority orders.

6. The "Reset Continuous" command button will adjust the low setting to 1, but the high setting will be adjusted to whatever the continuous sequence count is. In other words, if the highest sequence number is 150, but there is not sequence number 80, then the high setting well

be adjusted to 79. The settings ran continuously from 1 to 79, but stopped at 80 since that sequence number was missing.

Clearing a filter field

1.   Select the field that you desire to be cleared of previously set filters.

2.   Click on the "Clear" button. The selected field will empty and be clear of any selections.

3.   Filter fields can be cleared individually. For example, "Order Numbers" might be cleared first, and then another field such as "Material" can be cleared.

4.   If it is desired to clear all fields, click on the "Clear All" command button at the bottom of the screen.

Saving a filtering scheme

1.   Set your desired filters in the "Set Filters" window as discussed in the previous pages.

2.   Click on the "Save" command button. The following screen will prompt the user to save the selections as a file. This basically creates a library of filter sets that can be used over and over again instead of being required to pick your filters individually each time you change them.
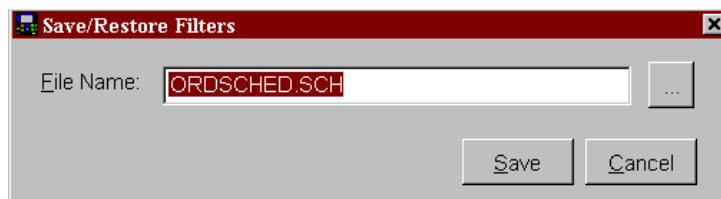
3.   A browse button is included in order to place the file in a desired location. A different file name can be assigned that is more descriptive or your filter set.

Recalling a Filtering scheme

    1.   Click on the "Restore" command button. The following window will be displayed, prompting the user for the file that was previously saved. Keep in mind, there may be several filter library sets.
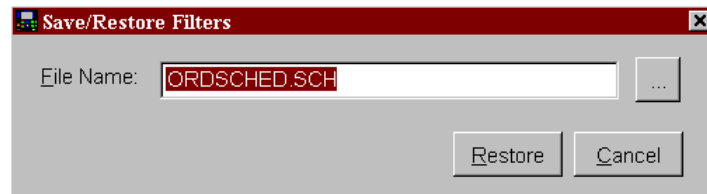
    2.   Once the desired file is selected, click the "Restore" command button located on the "Save/Restore Filters" window. This will set your filters to what was saved in that particular file.

Order Edits

The order edit screen is used for entering, editing, deleting, and reviewing order data. There are four tabs on the screen. The "Orders" tab gives a list of all orders for all machines. The "Items" tab shows all of the items for the currently selected order. The "Bundles" tab shows user-defined fields for each bundle within the currently selected order. The "Cut list" tab displays the items and messages, as they would appear at the XL controller. From any screen, it is possible to move and down though the list of order by using the navigation buttons on the right side of the screen.

Orders

"Orders" Column Descriptions

Order Number	The order number is used to distinguish one order from another. It can be a customer sales order, a shop/work order, or other designation.
Material	The material code identifies the type of material to be used for this order.

Product Code	The product code defines the machine tooling needed to produce the order. This is used in conjunction with the product code-machine pairings to determine which machines an order can be sent to.
Hold	Orders that are on hold will not be sent to the XL controller.
Length Ft.	Total lineal feet (meters) of the order.
Remaining Ft.	Remaining feet (meters) left to run for the order.
Status	The status for an order can be one of the following: Unscheduled, Scheduled, Sequenced, Machine, Done or Return. Sequenced orders will be assigned to a machine, but not yet sent. Scheduled orders are setup to be sent to the controller on a particular date and time. Orders with a status of machine are at the XL controller. Orders are done when the quantity done is equal to or greater than the programmed quantity for all of its items. A status of Return indicates the order is to be sent back to the originating system for changes.
Sequence	The sequence number determines the order in which orders are sent to a controller on an auto-request or when more than one order is scheduled to be sent at the same date and time.
Import	Date that the order was imported/added into Eclipse.
Machine	The ID number for the machine this order has been either sent or assigned to.
Schedule Date	Date and time the order is scheduled to be sent to the chosen machine.
Complete	Date the order was completed. This is mostly used to determine whether or not a completed order can be deleted.
Last Prod	The last date any production activity occurred for the order at a machine.

Loading Dock	This fields identifies the loading dock that the order is to be forwarded to.
Staging Bay	Defines the preparation area for the order.
Customer Name	The name of the customer that the order has been sold to.
Address 1	Provides the first address line of the customer whom the order was sold to.
Address 2	Provides the second address line of the customer whom the order was sold to.
City	The city of the customer to whom the order was sold
State	The State of the customer to whom the order was sold.
Zip Code	The Zip Code of the customer to whom the order was sold
Country	The Country of the customer to whom the order was sold
Ship Instructions	Text explaining how the order is to be shipped.
Bundle Label	Indicates a specific print message format name to be used for printing "Bundle Tags" for this order
Part Label	Indicates a specific print message format name to be used for "Print on Part" labels for this order
Type	Hole count orders will show an "H"
User Fields 1 thru 5	There are 5 user fields that can be enabled and used. Each field can be customized and renamed. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the Maintenance menu.
Work Order	A field giving the user an additional means of identifying and tracking a specific job or group of jobs as they relate to internal work authorization controls. This field can be used in addition to the "Order Number" field, but is not required.

AMS CONTROLS

Items Tab

The items screen is used to create and manage all of the line items that make up an order. Items can be added, edited, deleted, sorted, and bundled on this screen.

"Items" Column Descriptions

Sequence   The sequence number indicates where in the cut list the item should appear.

Lift   Also known as the bundle or skid number. This is used to identify which items are to be packaged together. The XL controller can stop the machine when it encounters a new lift number.

Qty   Number of pieces to produce. Please note that for items with a part option of "alternate", this quantity indicates the number of pairs to produce.

Qty Done   Number of pieces already produced. This value is updated as XL-Comm processes production records from the XL controller.

Length in   Length of the part. Please note that this will automatically be filled in if a part number is specified that has a length defined.

Status   Current status of the part.

Option   Punch pattern option. This defines if a punched part will be right-handed, left-handed, alternate, or mirrored. Right-handed parts use the actual leading edge for all leading edge references in the punch patterns. Left-handed parts use the trailing edge. Alternate produces both a left and right-handed part for each quantity. Mirrored parts have all punches up to the center of the part mirrored on both sides of the centerline.

Message   This is a text message that appears in the middle of the cut list on the XL screen. These message lines will alternate with the normal line items. Messages can be added that do not necessarily associate with a particular line item.

For example, three message lines can be used for notes and can appear at the top of the order on the controller. To do this, enter only message information and leave the quantity and length fields blank. The cut list screen is a preview of how the messages and line items will appear on the XL controller.

Part Type   This field will display whether the part is a "Temporary" part that will be deleted after it is produced or a "Permanent" part that will remain at the controller until manually deleted.

Item ID   An item can have an ID assigned to it if the product code that the item is being produced under includes an ID number.

Part Number   This is the number that identifies a given part and all of its operational patterns and operations. This may also include the length of the part. The locate part button can be used to search for or pick from the list of available parts.

Pattern   Punch pattern assigned. This value is read-only and is automatically filled in by XL-Comm when downloading orders.

Hole Count	The number of holes that are to be counted before the part pattern or length are begun at the offset distance. (Only when the hole detect option is activated)
Hole Offset	The distance after the last detected hole (as defined in the "Hole Count") that a cut is performed or a pattern is begun. (Only when the hole detect option is activated)
User Field 1 & 2	There are 2 user fields that can be enabled and used. Each field can be customized and renamed and used as an additional tracking and filtering method. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the "Maintenance" menu.

Finding Parts

To search for a part number, press the "***Part ?"*** button when on the part number field. This will bring up the following screen. The library of parts can be searched for all part number that either has the entered text at the beginning of the part number or anywhere in the part number.

In the example below, "std-24" is the desired part number. Keying in (std) caused any matching part number to be displayed. In this case, all part numbers that had "std" anywhere in the name as selected in the "Location in string to accept match" window on the screen.

Another method would be to double-click on the "Part Number" field. This will bring up the standard "Parts" programming screen. Highlight the desired part number then press the "Select" command button at the bottom of the page. In the case below, the "Parts Definitions" screen has already been entered. The Part number of "std-24" has been highlighted. Clicking the "Select"

command button will fill the part number field in the items page with the selected part.

Copying, Splitting and Bundling Items

To copy, split, or bundle one or more items, select the item(s) and click the [Copy/Split/Bundle] button on the "Items" screen tab. The following screen should appear:

At the top of the screen are three selection titles: "Copy Current Item(s)", "Split Current Item(s)", and "Bundle Selected Items". Select the appropriate choice by clicking on the item or tabbing to it and pressing the space bar. Only one choice can be enabled at any given time.

Copy Current Item (s)

If you desire to make copies of an existing item, choose "Copy Current Item(s)". Once this is selected, the fields in that section of the window will be enabled. Fill in the "number of copies" to make.

If the "Increment Lift Numbers" box is checked, the new item(s) will be created with the next succeeding bundle number, incrementing with each individual bundle. In the above example screen, the user programmed the item to be copied three times, with each of the three new lifts containing an incremented lift number.

Split Current Item (s)

If the user wants to split a specific item into smaller items, select the "Split Current Item(s)" choice. This will enable the respective fields.

Among the newly highlighted fields are the methods for bundling the newly created lifts:

Lifts of X pieces   Is selected if the user desires to bundle an order with a predetermined number of parts in each bundle.

X Number of Lifts   Is selected if a certain number of lifts is desired. The number of lifts can be set if the "X Number of Lifts" is the selected item.

Lifts of equal Wt.   Allows the user to create bundles by a weight range. A "Max Wt" field is supplied to input the maximum weight that is allowed on a given bundle. A "Tolerance" field is also supplied to allow for a percentage of variance to occur regarding the maximum weight. This can make bundling more efficient and may save time and labor in bundling small bundles.

Bundle Selected Items

When the "Bundle Selected Items" field is selected the highlighted items are consolidated into fewer bundles. The bundles are based on the selected criteria in the window.

Bundles Tab

The bundles tab is used to enter user-defined fields that are bundle-specific. **This information is only used when part-marking or printing bundle tags.**

"Bundles" Column Descriptions

Lift The "Bundle" or "skid" number.

User Fields There are 5 Bundle-related user fields that can be enabled and used. Each field can be customized and renamed and used as an additional tracking and filtering method. Before the used fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the Maintenance menu.

The above example shows only two of the fields enabled; they have been named "Tracking Code" and "Drop Site".

Cutlist Tab

The cut list tab is a preview of what the order will look like at the XL controller. This is helpful to see exactly where a message will appear relative to the rest of the cut list items.

"Cutlist" Column Descriptions

Lift   Also known as the bundle or skid number. This is used to identify which items are to be packaged together. The XL controller can stop the machine when it hits a new lift number.

Qty   Number of pieces to produce. Please note that for items with a part option of "alternate", this quantity indicates the number of pairs to produce.

Done   Number of pieces already produced. This value is updated as XL-Comm processes production records from the XL controller.

Length   Length of the part. Please note that this will automatically be filled in if a part number is specified that has a length defined.

Pat(tern) **This is the punch pattern assigned to the respective item. This value is read-only and is automatically filled in via Eclipse when downloading orders.**

O(ption) **This displays the punch pattern option.** This defines if a punched part will be right-handed, left-handed, alternate, or mirrored. Right-handed parts use the actual leading edge for all leading edge references in the punch patterns. Left-handed parts use the trailing edge. Alternate produces both a left and right-handed part for each quantity. Mirrored parts have all punches up to the center of the part mirrored on both sides of the centerline.

S(tatus) The status at the controller can be one of the following: Ready, Next, Fill, Work, Skip, or Done.

Part Number The part number field does not appear on an XL100 controller. It is included on this screen as a convenience.

Kit Definitions

Kits are simply pre-defined orders that can be used again and again, thus saving on time, expense, and programming errors. The "Kits" module is an optional package that can be obtained with the purchase of Eclipse or as an upgrade addition.

Select "Kit Definitions" from the Orders drop down menu. The "Kit Definitions" window is comprised of 4 tabbed pages including Kits (1), Items (2), Bundles (3), and Cutlist (4). These screens are very similar to the screens found in the "Order Edits" screen.

"Kits" Column Descriptions

Kit Number	Unique identifier for the kit.
Material	The material code identifies the type of coil to be used for this order.
Product Code	The product code defines the machine tooling needed to produce the order. This is used in conjunction with the product code-machine pairings to determine which machines an order can be sent to.
Length	Total lineal feet (meters) of the order.
Import	The date that the order was imported into Eclipse.
Country	The Country of the customer to whom the order was sold.

Ship Instructions	An instruction text explaining how the order is to be shipped.
Customer Name	The name of the customer to whom the order was sold.
Address 1	Provides the first address line of the customer whom the order was sold to
Address 2	Provides the second address line of the customer whom the order was sold to.
City	The city of the customer to whom the order was sold
State	The State of the customer to whom the order was sold.
Zip Code	The Zip Code of the customer to whom the order was sold
Bundle Label	Will show if the order contains a bundle label by displaying "Bundle Tag"
Part Label	Will show if the order contains part printing by displaying "Inkjet Print"

Creating new Kits

When creating a kit, it is possible to base the new kit on another kit, base the new kit on an existing order, or to create one from scratch.

To add a kit, click on the "Add" command button. The following message will appear:
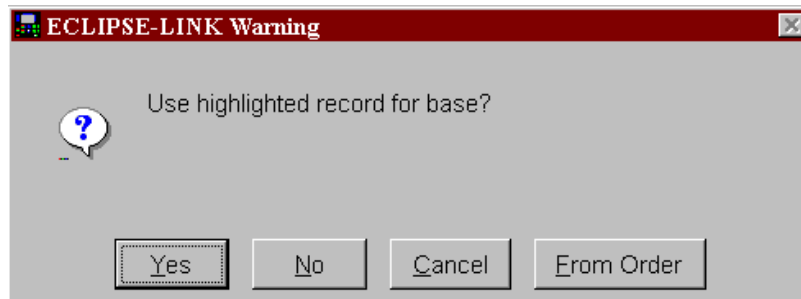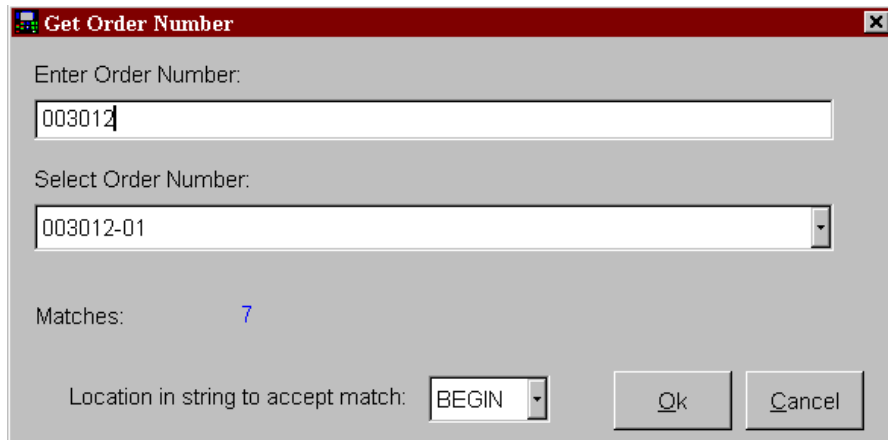
Click "**Yes**" to base the new kit on the existing kit that is highlighted on the "Kits" edit screen. Make sure you have the desired kit highlighted before activating the "Add" command button.

Click **"No**" to create a new kit from scratch. This kit will not be based on anything previously entered.

Click "**From Order**" to base the new kit on an existing order. The order selection screen will be displayed and the user will be able to search for an order by typing in only a portion of the order number. Associated matches to the number will be shown.
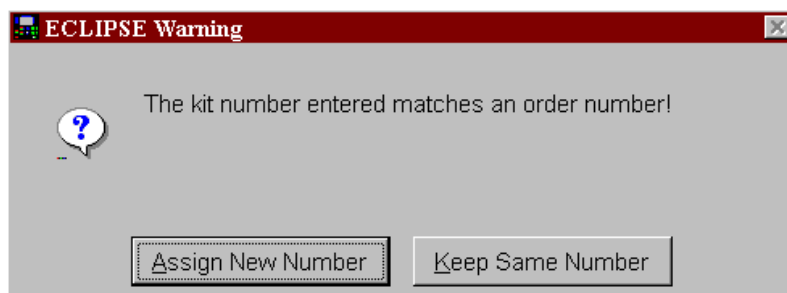
In the following example, "003012" was typed in the search field and 7 matches are recorded. The "Select Order Number" drop down list will provide all orders that match the entry.

After selecting an order, there will be a prompt that the newly created kit number matches an order number. This should come as no surprise since the kit was created from the order.

The order number can be used as the kit number or a new number can be specified. The user is given the option by selecting either "Assign New Number" or "Keep Same Number".

Kit Items

The kit items screen is almost identical to the item screen for normal orders; it is used to create and manage all line items that make up a kit. Items can be added, edited, deleted, sorted, and bundled in this screen.

"Kit Items" Column Descriptions

Lift
Also known as the bundle or skid number. This is used to identify which items are to be packaged together. The XL controller can stop the machine when it hits a new lift number.

Qty
Number of pieces to produce. Please note that for items with a part option of "alternate", this quantity indicates the number of pairs to produce.

Length
Length of the part. Please note that this will automatically be filled in if a part number is specified that has a length defined.

Part Number
Part numbers defined the punch pattern to be used. The locate part button can be used to search for or pick from the list of available parts.

Message
This is a text message that appears in the middle of the cut list on the XL screen. These message lines will alternate with the normal line items. Messages can be added that do not necessarily associate with a particular line item. For

example, three message lines can be used for notes and can appear at the top of the order on the controller. To do this, enter only message information and leave the quantity and length fields blank. The cut list screen is a preview of how the messages and line items will appear on the XL controller.

Option   Punch pattern option. This defines if a punched part will be right-handed, left-handed, alternate, or mirrored. Right-handed parts use the actual leading edge for all leading edge references in the punch patterns. Left-handed parts use the trailing edge. Alternate produces both a left and right-handed part for each quantity. Mirrored parts have all punches up to the center of the part mirrored on both sides of the centerline.

Sequence   The sequence number indicates where in the cut list the item should appear.

Hole Count   The number of holes that are to be counted before the part pattern or length are begun at the offset distance. (Only when the hole detect option is activated)

Offset   The distance after the last detected hole (as defined in the "Hole Count") that a cut is performed or a pattern is begun. (Only when the hole detect option is activated)

User Field 1 & 2   There are 2 user fields that can be enabled and used. Each field can be customized and renamed and used as an additional tracking and filtering method. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the "Maintenance" menu.

Bundles Tab

The bundles tab is used to enter information into user-defined fields that are bundle-specific. This information is only used when part-marking or printing bundle tags.

The example above shows a print message for two lifts (or bundles). When the items included in bundle #1 of this item are produced, any printed information that include the Bundle User fields that have been assigned will get this information printed on them.

Note that User field #1 and #2 have been renamed "Tracking Code" and "Drop Site". The other three fields have the original user field label. The label can be changed in the Maintenance menu on the main tool bar under the selection of "Assign Custom Fields".

When lift number one is printed, User Field #1 (Tracking Code) and User Field #2 (Drop Site) will be printed accordingly if the user fields are included in the print scheme.

"Kit Bundles" Column Descriptions

Lift   This is the lift (or bundle) that will print the related messages on items created with a matching lift number.

User Fields   These user-defined fields can be used as needed. Refer to the *Assign Custom Fields" selection in the "Maintenance" menu list.

Cut List Tab

The cut list tab is a preview of what the order will appear as at the XL controller. This is helpful to see exactly where a message will appear as relative to the rest of the cut list items.

Column Descriptions

Lift
Also known as the bundle or skid number. This is used to identify which items are to be packaged together. The XL controller can stop the machine when it encounters a new lift number.

Qty
Number of pieces to produce. Please note that for items with a part option of "alternate", this quantity indicates the number of pairs to produce.

Done
Number of pieces already produced. This value is updated as XL-Comm processes production records from the XL controller.

Length
Length of the part. Please note that this will automatically be filled in if a part number is specified that has a length defined.

O(ption)
Punch pattern option. This defines if a punched part will be right-handed, left-handed, alternate, or mirrored. Right-handed parts use the actual leading edge for all leading edge references in the punch patterns. Left-handed parts use the trailing edge. Alternate produces both a left and right-handed part for each quantity. Mirrored parts have all punches up to the center of the part mirrored on both sides of the centerline.

Part Number
The part number field does not appear on an XL100 controller. It is included on this screen as a convenience.

Operator Message

The operator message screen is used to send a text message to one or more XL controllers. The message will be displayed over the entirety of the XL controller screen and the operator must clear the message to see anything else.

When the controller receives a message, it will not halt the machine if it is running. All operations will proceed as normal.
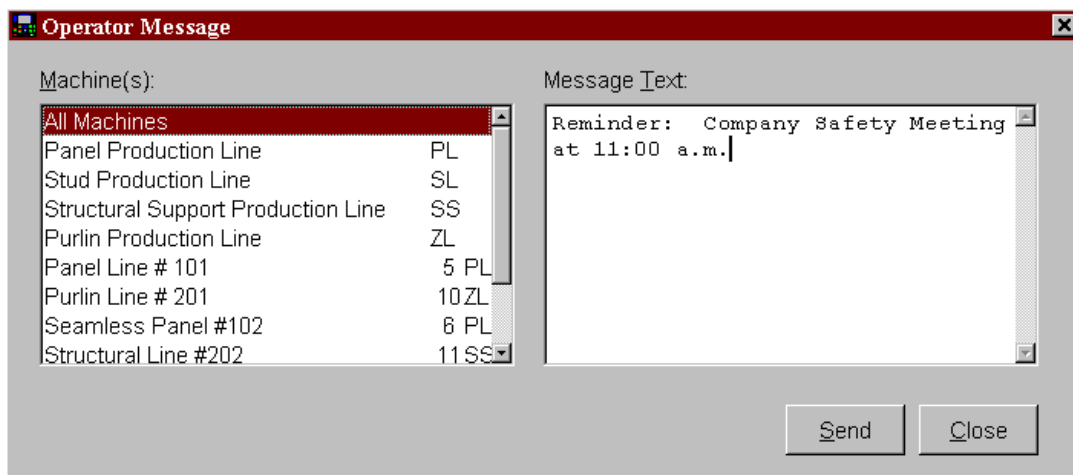
Note that the example above provides a list of all available machines and machine groups. A selection is also available for all machines. By selecting the appropriate choices, a message can be sent to all machines, a machine group(s), or to an individual machine.

It is also possible to select several machines or machine groups by selecting the first choice then holding down the "Ctrl" key when clicking other desired machines.

Parts and Patterns

Part Definitions
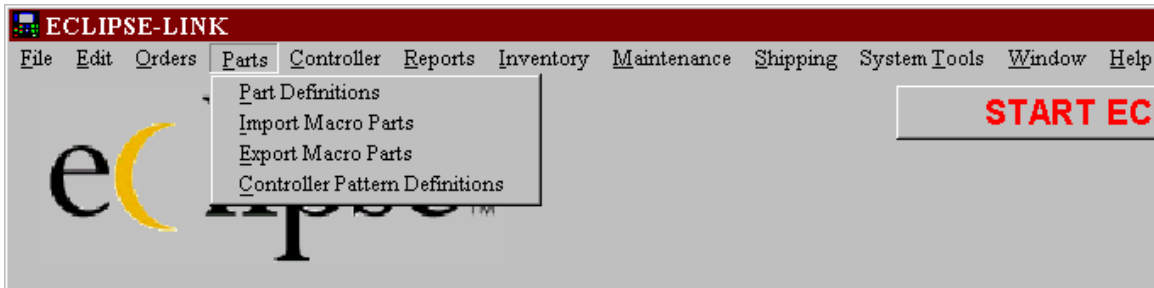
For machines that punch holes, it is necessary to define what punch tools should be used as well as where on the part the holes should be located. These punch patterns can be programmed directly from a drawing. Since the XL controller knows the relative location of all punch tools, it can make the necessary calculations for indexing feed-to-stop machines or for target positions for non-stop machines.

Parts vs Patterns

XL100 series controllers reference punch patterns by a three-digit alphanumeric pattern identifier. Pattern numbers 1-999 and letters 00A to YZZ are used for normal patterns and letters Z00-ZZZ are used for macro patterns

Although this allows for a large number of patterns to be created, a specific three-digit number may not be easily recalled when programming large volumes of orders. Also, the XL controller has a limited amount of memory that could theoretically be overloaded with patterns.

To overcome this, Eclipse software designed to allow a practically infinite number of punch patterns. These punch patterns are stored in a library on the Eclipse-Link PC and are called Parts. When an order is sent to an XL controller, Eclipse-Comm checks to see if all required patterns are already at the controller. If they are not, it downloads the necessary patterns. Eclipse-Comm normally uses the next available pattern number when downloading

new patterns. It is possible, however, to assign a specific pattern number to a part. A setting found in the "Settings" selection of the Maintenance menu has an enable checkbox to force Eclipse to download new patterns every time.

Because the available pattern numbers at the controller can quickly be used up, Eclipse-Comm also automatically deletes patterns that are no longer needed from the controller.

Macros

To simplify programming, special punch patterns called "macros" can be used as part of other patterns. For example, a bolt pattern that is used to attach cross members to a part may be used several times in that part. That bolt pattern may contain several holes. Rather than program the same hole pattern several times in the same part, it is possible to program the hole pattern as a macro. After the macro is defined, it can be used in any punch pattern as if it were a punch tool. Eclipse-Comm automatically ensures all necessary macro patterns are downloaded to the XL controller as needed. Please note that it is not possible to reference another macro from within a macro pattern.

Importing Parts & Macros

Part information can be imported via an ASCII text file. Eclipse-Comm checks for part import files on a regular basis. To specify the file name and directory for the part file, please see the Import/Export tab in the Settings screen under the Maintenance menu. The frequency in which Eclipse-Comm looks for files can be set in the Timing tab (also in the Settings screen). For more information about Eclipse-Link's file transfer features, please see Appendix?

Macro information can be imported as well as exported through text files. Unlike the part definitions, macros must be manually transferred.

Part Definitions

There are two pages or tabs on the Parts screen. The first, called "Parts", shows a list of all parts. The second, called "Punches", shows all punch operations for the currently selected part.

Add

There are two ways to add new parts by hand. The first is by clicking on the 'Add' button. If there are no other parts already defined, it will create a blank part record. If a part already exists, the software will ask if you want to base the new part on the currently selected part. If yes is picked, the material code, date, description, etc. will automatically be copied to the new part.

The other method is to press the down arrow key when on the last part. This will create a blank part record.

Delete
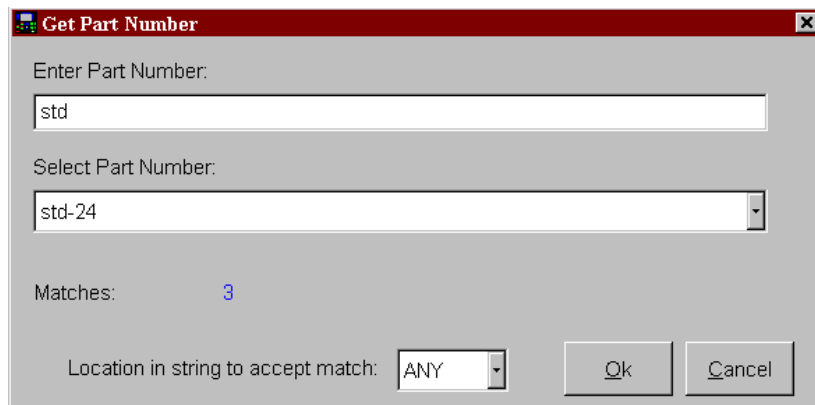
As parts are consumed, it is helpful to remove them from the "Parts" screen on a periodic basis. The simplest method to do this is to:

- Sort the parts by 'Date Out'.
- Select all but the most recently used parts (click on the first part, hold the shift key and click the last).
- Press the delete button.

Locate Part

Parts can be easily found by using the *Locate Part* or *Search* buttons. The Locate Part button is used when the all or part of the part number is known. For example, you can search for all part numbers that starts with or contains "std" anywhere in them. See below for a similar example that produces three matches.

The number of matches will be displayed on the bottom of the locate screen. All of the actual matches are shown in the drop-down select box. To find the desired part, select it from the list and press the "OK" button.

It is also possible to locate a part that has particular characters in the middle or end of the part number. The comparison method (beginning or anywhere), the minimum number of characters before looking for matches, and the number of matches to display are all options that can be changed in the Settings screen under the Maintenance menu.

Search

The second method for finding a part is the Search button. Rather than finding a part by the part number, it looks for parts by attributes such as import date, pattern number, etc.

Almost any column can be used as the search key. In the screen above, the import date column is being searched for a "03/05/01" (a matching import date was found and will be highlighted on the parts screen).

"Part Definitions" Column Descriptions

Part Number   The part number is a unique identifier for the part. It can be up to 30 characters long. Parts are sent to the XL controller as patterns.

Macro   This checkbox indicates shows if the part is a macro part. Only center-based references can be used in a macro part.

Import/Export   The date the part was last imported.

Permanent   Permanent parts are kept until they are manually deleted. Non-permanent, or temporary parts are automatically deleted after they have been used and are no longer needed (obsolete).

Length   Specifies the default length of the part. Most parts can be used with items of any length, although there are cases when parts will only be a particular length. When the length is defined, it will automatically be filled in the cut-list item when the user specifies the part number.

Pattern   Specifies the pattern number to be used when the part is sent to an XL controller. If this is left blank, the next available number will be assigned to the pattern.

Punches   The number of punch records currently defined for the part. Please note that this does not necessarily indicate the exact number of holes that will be punched on the part.

Last Used   The date the part was last used. This is useful when deleting temporary parts that are no longer needed.

Option   Specifies the default option for the part (right, left, mirror, alternate).

Punches

The punches tab shows punch information for the currently selected part. From this screen, it is possible to "**Add**", "**Delete**", "**Locate Part**", "**Search**" and change punch operations. These functions each work identically to the similar buttons located on the "Parts" tab.

The arrow buttons on the right side of the punches screen are used to navigate up and down through the list of parts without having to return to the parts tab.

"Punches" Column Descriptions

Tool	Indicates the tool number to be used to make this punch. A tool is a combination of a particular press and gag. The tool must be defined at the XL controller.
Macro	The macro checkbox shows whether or not the tool is actually a macro punch pattern. This read-only checkbox is automatically set after the user enters a tool name for a macro.
Reference	Punches can be referenced from the leading edge, trailing edge, or center of the part. It is also possible to use the even spacing reference to create a series of holes that are a particular (the offset) distance apart. The first hole in an even spacing pattern is defined using a leading edge reference. The spacing limit

reference is used to determine where the even spacing series stops. Please refer to the XL controller manual for more detailed information on references and punch programming in general.

Offset   The distance from the specified reference point to where the punch should be located. For even spacing references, this is the distance between holes.

Import Macro Parts

Since macro parts are not automatically imported, there is a method by which these parts can be manually transferred from a text file. The text file format is a delimited file in the same format as the PARTIN.DEL file (please refer to appendix XX for the specification).

A designated location needs to be set up that the parts will be imported from. Select the "Import Macro Parts" from the "Parts" menu list. The following screen will be displayed. The "path" to the parts file will need to be input. The Browse button (…) can also be used to locate the file location.

Once the file location has been entered, simply press the "Import" button to download the macros.
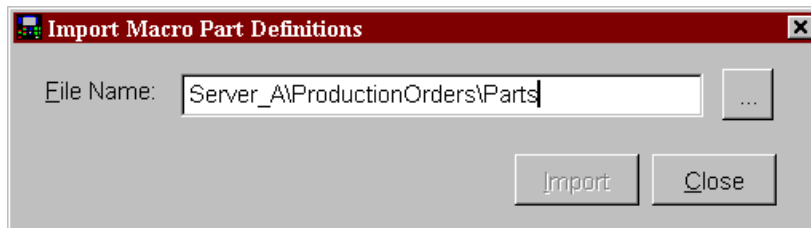
Export Macro Parts

Macro parts are also not automatically exported. The method to transfer macro parts out is identical to the import routine. Once again, the text file format is a delimited file that can be referenced in appendix XX for actual specifications.

To export a macro file, select the "Export Macro Parts" from the list under the "Parts" Menu located on the main status screen toolbar.

Once the appropriate file has been designated, click on the "Export" button to upload the macros to the export file.
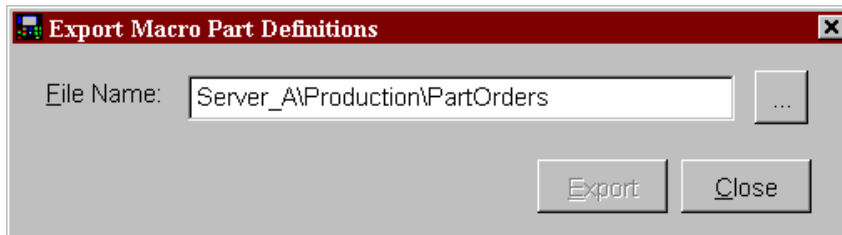
Controller Pattern Definitions

The pattern screens are used to view the current pattern definitions at each controller. These screens look very similar to the punch screens but are read-only. Please note that patterns may be manually entered at the XL controller.

Patterns

Column Descriptions

Pattern   The three digit pattern number. Cut-list items also reference this pattern number.

Operations   Number of punch operations in the pattern.

Permanent   Indicates if the pattern was downloaded from the PC or manually entered. Patterns entered at the XL controller are marked permanent. If memory is lost on a controller, all permanent patterns will be resent automatically.

Action   There are three actions: Add, Delete, and Change. "Add" means the pattern should be sent to the XL. "Delete" means the pattern should be deleted from the XL. "Change" means the pattern contents should be updated.

Status   The status column shows whether or not the last action was completed. A pattern with a status of add, but not completed is supposed to be sent to the XL,

but Eclipse-Comm has not yet had a chance to send it.

Operations

The operations screen simply shows the actual punch operations of the selected pattern (the highlighted pattern on the "patterns" tab). Once again, this is a read-only screen and cannot be edited.

Column Descriptions

Tool	Indicates the tool number to be used to make this punch. A tool is a combination of a particular press and gag. The tool must be defined at the XL controller.
Reference	Punches can be referenced from the leading edge, trailing edge, or center of the part. It is also possible to use the even spacing reference to create a series of holes that are a particular (the offset) distance apart. The first hole in an even spacing pattern is defined using a leading edge reference. The spacing limit reference is used to determine where the even spacing series stops. Please refer to the XL controller manual for more detailed information on references and punch programming in general.

Offset   The distance from the specified reference point to where the punch should be located. For even spacing references, this is the distance between holes.

Controller

When the optional "Custom Label Design" software module is added, Eclipse software is able to generate customized print information when used in conjunction with an XL series controller. Customized print messages, graphics, production information, and production graphs are among the unique features included in Eclipse. These items are integrated directly with the XL controller.
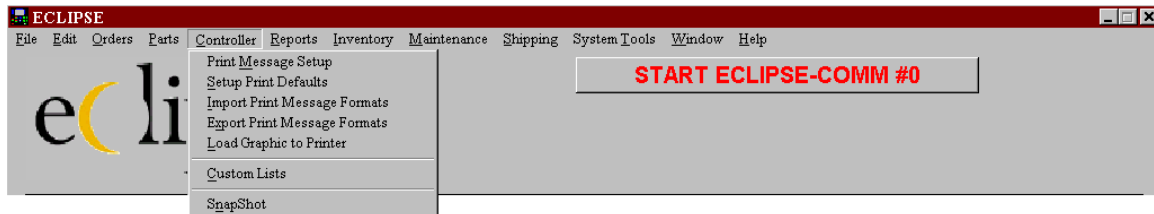
Print Message Setup

Selecting "Print Message Setup" causes the editing screen for customized print messages to be displayed. (If the "Custom Label Design" software module has been added.)
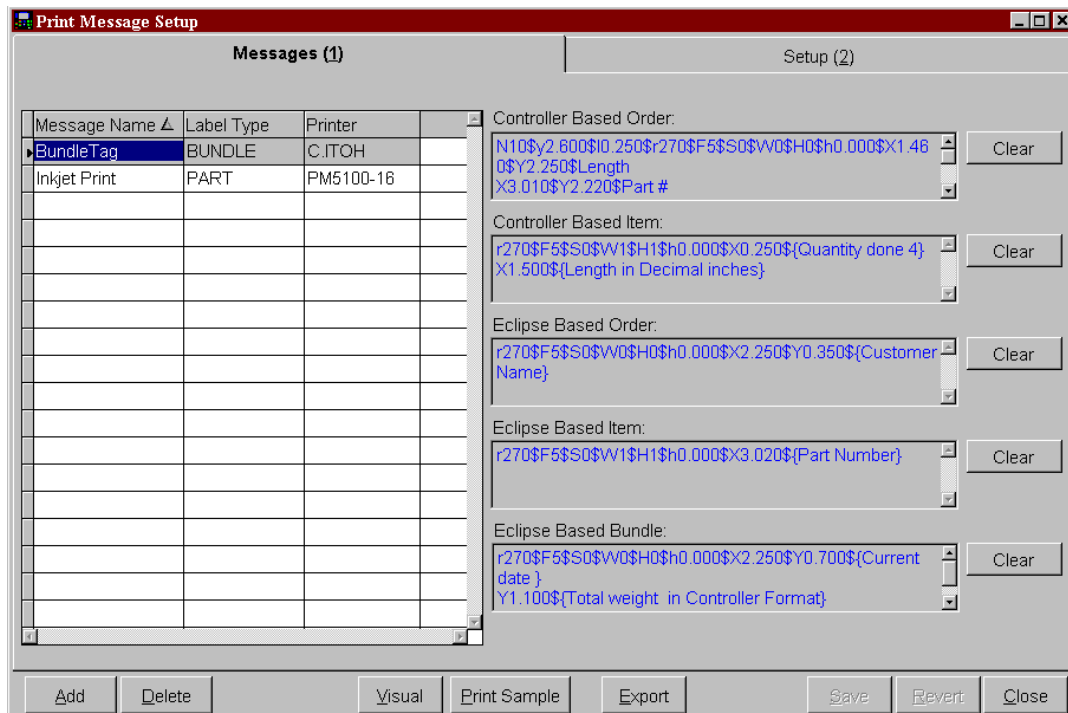
This window is split into two different tabbed pages. The first page is "Messages"; the second page is "Setup". The "Messages" page contains all programmed messages, their names, and general information for each print message. The "Setup" page contains all of the detailed print information for the print message that is highlighted on the "Message" page.

Messages

Each customized print message contains three attributes, as well at 5 potential print sources. To understand how to create a custom message, it is important to first understand what makes up a print message.

"Messages" Column Descriptions

Message Name	This is the unique name that is given to a particular print message and the name that will be used when designating a message to be sent to a specific controller.
Label Type	Selects the type of label that will be made. There are only two selections:

1. Part (Part Printer)

Creates a print for every part produced. This can be printed on a tag or printed directly on the part via inkjets, impacts pins, or tags.

2. Bundle (Bundle ticket printer)

Creates a printed tag for every "bundle" or "Lift" of product. Tag will typically contain information on all parts within bundle.

Printer	Selects the printer that the message will be created for. Different brands of printers require different communication drivers (software to make them communicate).
	The Drop down list that this field provides will vary depending on what type of label is selected. Both fields are shown on the next page.
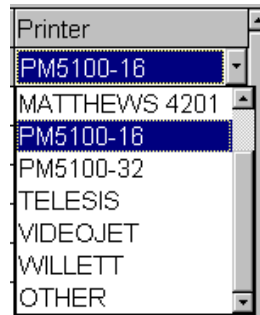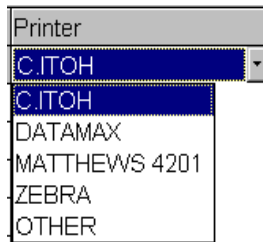
Once the message name, label type, and Printer have been selected, the user can begin programming the details of the tag. The 5 Description fields on the right side of the page is a read-only display of what the details of the message are after they have been coded for download. These five different fields are divided into "Controller Based" information and "Eclipse Based" information. It would be best to first define these 2 different groups of information sources, and why there are divisions within each of those groups.

Controller Based Information

Controller based information is basically information that the controller "knows" that can be applied to a print message. In other words, information that already resides in the memory of the XL-series controller. For instance, the controller already has the length of the next part in its memory; therefore it already "knows" this information. Such information does not need to be downloaded to the controller in order for it to be printed.

Controller Based Order

This is information that remains constant throughout order processing. For instance, an order's "Order Number" or "Total Order footage" will not change.

Controller Based Item

This is information that will change with each item that is processed within an order. Examples would be the "Length" of the part and the "Part Number".

Eclipse Based Information

Link based information includes information that is **NOT** resident in the memory at the controller. Such information is "known" by the Eclipse database and will need to be downloaded along with the respective orders to the XL-Series controller.

<center>**Eclipse Based Order**</center>

This is Eclipse based information that remains constant throughout a given order. Examples would be items such as the "Customer Name", "Total Weight", and "Product Description".

<center>**Eclipse Based Item**</center>

This is Eclipse based information that will change with each different item (length or part number) that is programmed. Selections such as "Part Number" and "Item User #1" are examples of Eclipse-based items.

<center>**Eclipse Based Bundle**</center>

Eclipse based Bundle information are items specifically linked to a particular bundle within an order that is set for production. Examples of such selections are typically "Bundle Weight", "Squares", "bundle User #".

Adding a print message

To add a print message, click on the "Add" command button. The user will be prompted to create a new tag or to use the highlighted tag as a base for the new tag.

Deleting a print message

A print message can be easily deleted. Highlight the print message that you desire to delete, and then click on the "Delete" command button.

"Clear" Command Button

A "Clear" Command button lies just to the right of each print source category. Clicking on this will clear all print information for that particular source. Clicking on the "Save" button at the bottom of the screen will make this change permanent, clicking "Revert" will put the information back.

Visual Command Button (visual preview of the tag or message)

A representation of the tag can be viewed without actually printing a tag on the production line, which may be quite far away. Clicking on "Visual" will display a tag simulation with block locations where the actual text will be. The following is an example of a bundle tag as displayed when the "Visual" command is selected.
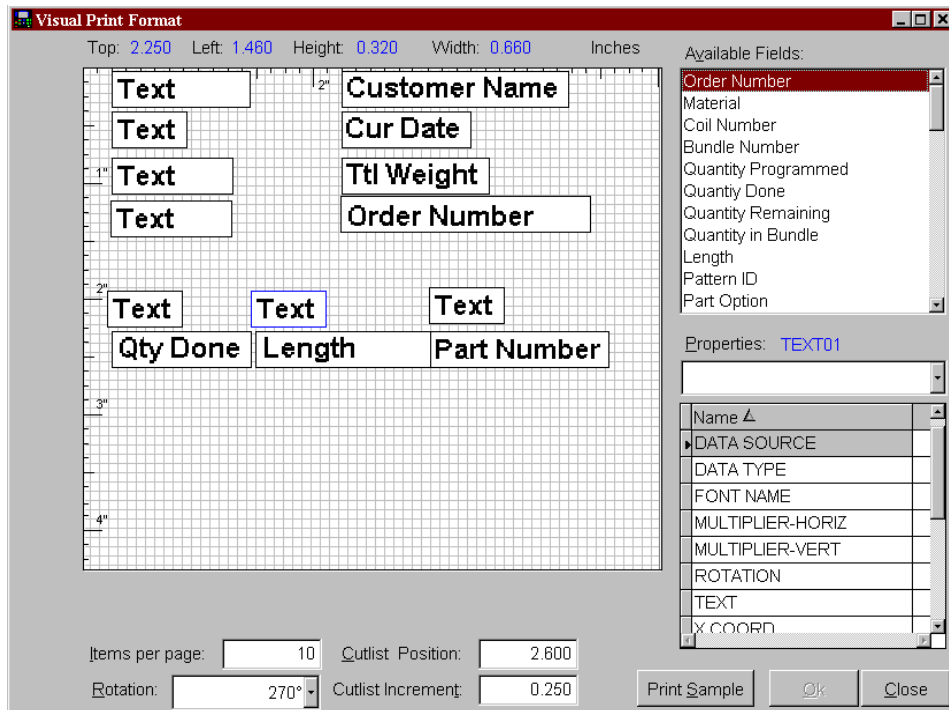
The "Visual" window will preview the tag as it will actually appear. Print "blocks" will be displayed in the place of actual information. These blocks will be located and sized according to how they were set up, including font size and length.

Not only can the view mode be used to display what has been set up, but it can also be used to add new information or re-arrange existing information.

To re-arrange an item, locate your mouse pointer on top of the block that you wish to move. Left-Click (and hold it) the block and simply drag it to the new location. Once it is in the position that you intended for it, release the left mouse button. The block will move to the new location.

If you wish to add items to the tag from this screen, select the desired print message type from the "Available Fields" drop down menu. The example above shows that the "Order Number" has been selected. Click on your selection in the list and drag the title of your selection to the desired location on the tag. When you release the mouse, a print block will be displayed for your selection.

Once satisfied with the location and direction of all items, "OK" should be selected to save the changes.

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The lower right-hand side of the screen shows the properties of each specific part of the print message. For example, each piece of information will have a Font, a rotation of text, and an XY location on the tag. Select a specific property such as "Font". Now look at the "Properties" window and select the appropriate font from the list that is provided. This is where the selection list for each property will be listed. The available print items in he "Available Fields" list will change depending on which "Data Source" is selected.

Also displayed (and is editable) are some of the tag page settings:

- Items Per Page
- Cutlist Position
- Rotation
- Cutlist increment

Print Sample

This unique feature of Eclipse provides the ability to download a designed tag directly to the production printer that will be used to create tags for the XL200 series controller. This will enable the user to view a tag right at the pc before actually installing the printer on the controller.

Connect the Eclipse pc to the printer via a standard RS232 cable and a null modem connector. Select an available port and connect the cable to the pc and to the selected printer. The program will automatically determine which printer model is being interfaced with. The C-Itoh T4 printer, Zebra printer, and Datamax printers are each supported.

Select the printer port and communication protocol in the "Settings – Communications" screen found under the *Maintenance menu*. The port on the pc that will be attached to the printer will need to be selected. Choices of Com1 to Com 4 are supplied.

Setups

The "Setups" page is the main programming page for setting up print information. Each print item can be programmed in great detail. Several print items can be included on a print message, particularly on tag applications. Before beginning the process of programming the print message, let's discuss the different print properties in each column.

"Setup" Column Description

Font	The "Font" property selects the font used to display the information. Special fonts exist for printing barcodes and other special characters.
X Coord	The "X Coordinate" specifies the location on the tag that the text information will be printed in relation to the "X" axis dimension. This point will be referenced to the lower left-hand corner of the first letter in the string that is to be printed.
Y Coord	The "Y Coordinate" specifies the location on the tag that the sting information will be printed in relation to the "Y" axis dimension. This point will also be

referenced to the lower left-hand corner of the first letter in the string that is to be printed.

Size   Each font can be set to a different size. The available sizes are displayed in this property and chosen from the provided drop-down list.

Rotate   This setting will decide which direction the information will flow on the tag. The X and Y coordinates decide where the information starts on a tag, but the rotation decides in which direction the information be displayed on the tag. The selections available are "0", "90", "180", and "270" degrees.

Data Type   Data Type refers to what kind of information this particular print item is. Possibilities are "Order", "Item" or "bundle".

- **"Order" Based**

  This is Eclipse based information that remains constant throughout a given order. Examples are items such as the "Customer Name", "Total Weight", and "Product Description".

- **"Item" Based**

  This is Eclipse based information that will change with each different item (length or part number) that is programmed. Selections such as "Part Number" and "Item User #1" are examples of Eclipse based items.

- **"Bundle" Based**

  Eclipse based Bundle Data are items specifically linked to a particular bundle within an order that is scheduled for production. Examples of such selections are typically "Bundle Weight", "Squares", "bundle User #".

Data Source   Selects whether the information that this item represents is based on "Controller" information or "Link" information.

- **Controller**

  Controller sourced information resides in the memory of the XL-series controller. For instance, the controller already stores the length of the next part in its memory, therefore it already "Knows" this information.

Such information does not need to be downloaded to the controller in order for it to be printed.

- **Eclipse**

    Link information includes information that is **NOT** resident in the memory at the controller. Such information is "known" by the Eclipse database and must be downloaded along with the respective orders to the XL-Series controller.

Delimited   If you want to print two different messages on the same part you need to place a delimit between the two messages and then define two print operations. The first print operation will print the message up to the delimiter and the second print operation will print the message from the delimiter on. The same pattern follows for any number of delimiters and print operations.

Print Data   This field displays what information will be printed on the actual print tag or in the part mark. The information is programmed by clicking on the "Edit Print Data" command button at the bottom of the tabbed page.

ID   As each print item is created, it is assigned an identification number (ID).

There are additional settings that can be manipulated to control the page format and the location of production information. These controls are displayed below the data grid.

Horiz. Multiplier   Sets a multiplier that will increase the height of the font by the programmed factor. For instance, a multiplier of 2 will cause certain fixed fonts to be increased two fold.

Vert. Multiplier   Sets a multiplier that will increase the width of the font by the programmed factor. For instance, a multiplier of 2 will cause certain fixed fonts to double in width.

Barcode Height Sets the height of the selected barcode. Enlarging this number will cause the actual printed barcode to increase in height.

Items per Page Sets the limit for the number of lifts that will be printed on a single tag. If more lifts are created than the set number, a second tag will be produced.

Position Sets the location of where lift-related information will be printed. If 2.5 is set, then the first lift items (quantity, length, etc) will be printed 2.5 inches from the top of the tag.

Increment Sets the distance between each succeeding lift item. If three lifts are printed on a tag using the "Position" from the previous example and .25 is set in the "Increment" setting, then lift #1 will be located at 2.5 inches, lift #2 at 2.75 inches, and lift #3 at 3.00 inches. Each lift is located .25 inches lower than the previous one.

Rotation Determines the direction how "item-related" strings will be displayed. Depending on how the tag is set up, the user may desire the item information to go right, up or otherwise. The available settings are "0", "90", "180", and "270" degrees.

To Add a new print item

1. Click the "Add" command button. This will cause the mouse-pointer to advance to the next available line in the print table. The first item that will need to be specified will be the "Font". Activate the drop down list to reveal the available fonts. Below, Font #5 has been selected on the example screen. (The dropdown list is specific to the printer being used causing the dropdown list to vary.)

Font
5

0	7 X 5 + 1 fixed font (max 33.83 cpi @ 203 dpi)
1	13 X 7 + 2 fixed font (max 22.56 cpi @ 203 dpi)
2	18 X 10 + 2 fixed font (max 16.92 cpi @ 203 dpi)
3	27 X 14 + 2 fixed font (max 12.69 cpi @ 203 dpi)
4	36 X 18 + 3 fixed font (max 9.67 cpi @ 203 dpi)
5	52 X 18 + 3 fixed font (max 9.67 cpi @ 203 dpi)
6	64 X 32 + 4 fixed font (max 5.64 cpi @ 203 dpi)
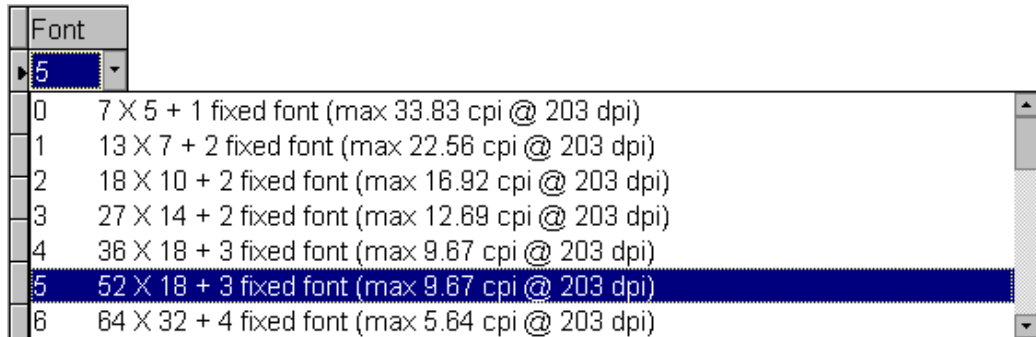
2. Next, set the X & Y coordinates, size, rotation, data type, data source and print data.

3. Once the print data is located, click on the "Edit Print Data" command button on the bottom of the page and a selection window will be opened.

Edit Print Data Setup

Available Fields:
- Order Number
- Material
- Coil Number
- Bundle Number
- Current Time
- Current Date
- Employee Number
- Product Code
- Page Number
- Number of Pages (Bundle Tag)
- Total Length (Bundle Tag)
- Number of Squares

Add >
< Remove
< Remove All

Selected Fields:
- Text1

Position: 1
Length: 6

Text: Part #

Ok   Close

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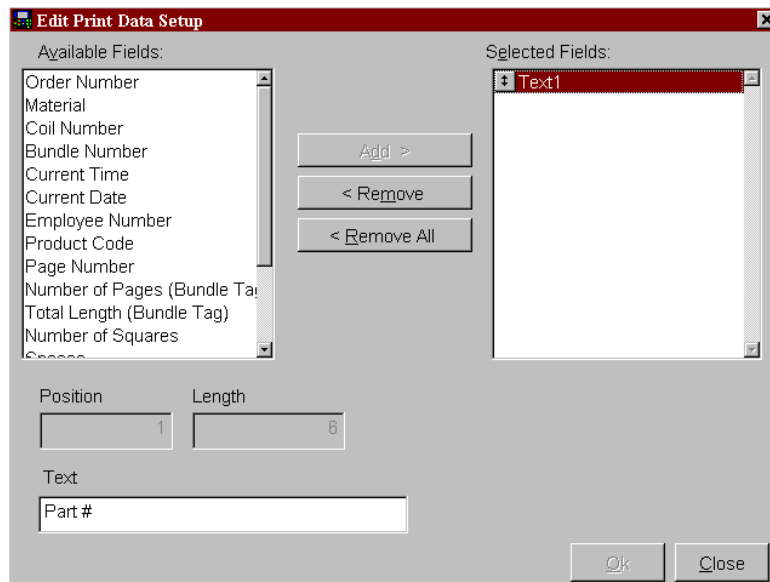
4. The window will display the available choices that can be added to the print message. The available choices will vary depending on how the "Data Type" and "Data Source" selections are set. For instance, a controller based print item will not be allowed to have a "User Field" in its selection list since "User Field" is a Eclipse-based field.

5. If the user does not want to use a macro, but wants to insert a text string onto the tag, he simply selects "Text" from the list. Upon doing so, the "Text" entry field is enabled. Type in the desired text into this field. This will be printed on the tag.

6. Once the entire line is completed and the print data is set, select the "OK" command button to save the print message item.

Import Print Message Formats

Print message formats can be imported into Eclipse from a file. This is useful when a company that owns multiple copies of Eclipse can take a copy created at one location and use it at its other plants. The Import Routine is included in the "Custom Label Design" software module.

Select "Import Print Message Formats" from the "Controller" menu; the following window will open.
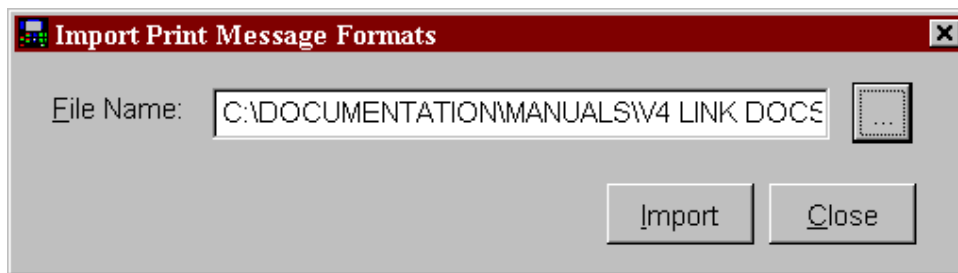
Select the file from the appropriate location and click on the "Import" command button. The file will be loaded into the database and be included with any other locally entered print formats.

Export Print Message Formats

Print message formats can also be exported from Eclipse. This creates a convenient method for saving information or for transferring information to another system. The Export Routine is included in the "Custom Label Design" software module.

Select "Export Print Message Formats" from the "Controller" menu and the following window will open.
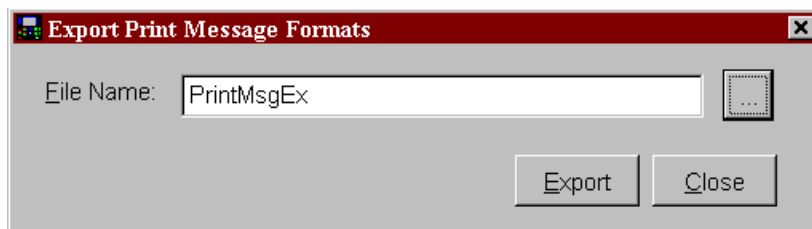
Assign the file a name and then click on the "Export" command button. The browse button can also be used to find a location for the format file. If this label has not been used previously, a prompt asking permission to create the file will open.
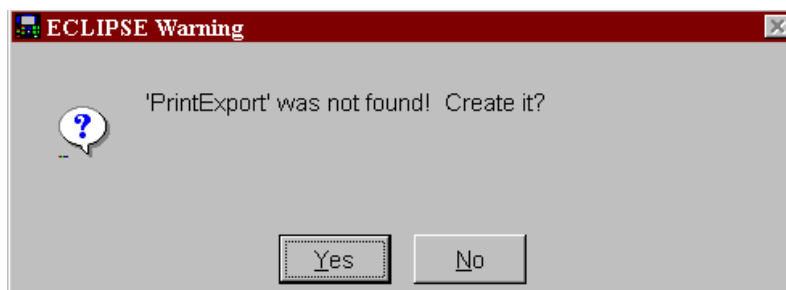
Select "Yes" to continue and save the file. Select "No" if you do not desire to save the print format file. Such files can also be stored on floppy disks, CD's or other storage mediums.

Load Graphic to Printer

A unique feature of Eclipse is its ability to upload a graphic file and transfer the graphic directly to the printer to be used for printing on tags or on part markings. The customer need only provide a graphic file with an acceptable format such as a "BMP", "PCX", "IMG", "GRF", or "TIF" file. Different printers can use some formats, but not others.

Connect the Eclipse pc to the printer via a standard RS232 cable and a null modem connector. Select an available port and connect the cable to the pc and to the selected printer. The "Load Graphics" program will automatically determine which printer model is being interfaced with. The C-Itoh T4 printer, Zebra printer, and Datamax printers are each supported.

Select the printer port and communication protocol in the "Settings – Communications" screen found under the *Maintenance menu*. The port on the pc that will be attached to the printer will need to be selected. Choices of Com1 to Com 4 are supplied. The communication specifications are also selected as follows.

- Baud Rate
- Parity
- Data Bits
- Stop Bits

Once the proper settings for communicating are set, click on the "Save" command button to save the settings for future use. If the user desires not to keep any changes that were made, select "Revert". This will cause all settings to return to their original state before the screen was accessed.

Graphic

"Load Graphic" enables the user to locate a graphic and store it on a printer. The desired graphic will first need to be identified and located. The path name to the graphic can be typed into the "File name" next box or browsed for by pressing the (…) command button.

The example below shows a bitmap file named "AMS2.BMP" that is located in the Eclipse directory of the host pc. All graphics choices must be in true black and white color. Some tags may appear black and white, but have color properties within them. The production printers do not recognize these color properties and the files will be unusable.
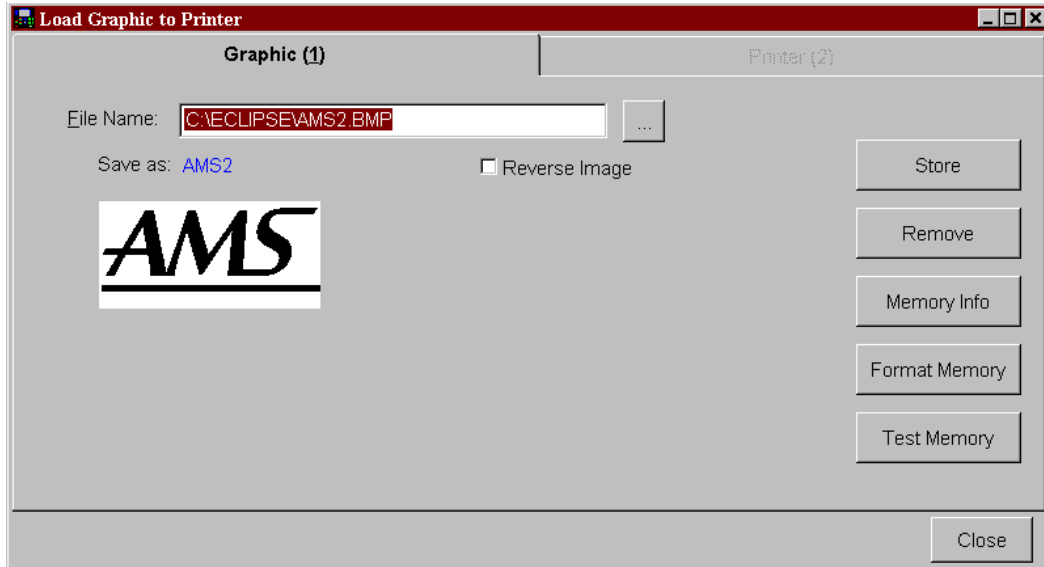
The actual graphic is displayed on this page. The size and rotation of the graphic must be specified before downloading to the printer. The location of the graphic on the printed tag can be changed by Eclipse, but the size and rotation are permanent properties once downloaded to the printer.

There are 5 command buttons that provide necessary functions for handling printer memory and graphics.

Store Command

"Store" will load the graphic to the printer's flash memory. Once the printer memory has been formatted, the selected graphic can then be downloaded to the printer. Verify that the graphic is the right size and rotation on the display. If the text for your tag is at 90 degrees, the graphic will also need to be turned 90 degrees.

Click on the "Store" command button. This will load the graphic into the printer memory. The download status is displayed in a pop up window as shown below.
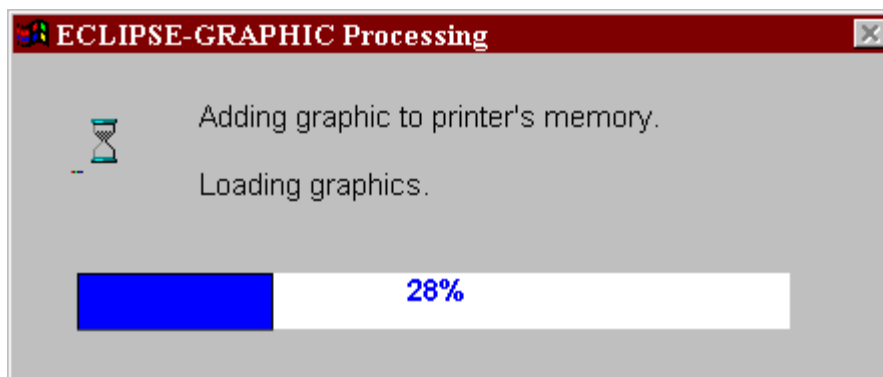
Remove Command

A graphic can be removed from the printer's flash memory very easily. Click on the "Remove" command button to delete the graphic from the printer. A status window will be shown with the progress of the removal.
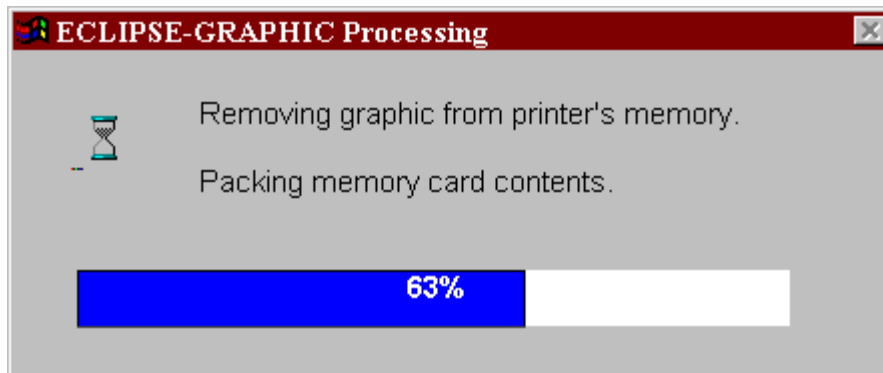
Memory Info

The user can verify communication to the printer and check the available memory by clicking on the "Memory Info" command button. Upon initiating the memory check, a pop up window will display that status of the memory scan on the printer.

```
ECLIPSE-GRAPHIC Processing                          ⊠

       ⏳      Scanning printer's memory.

               Checking for existing graphics.


                           60%
```
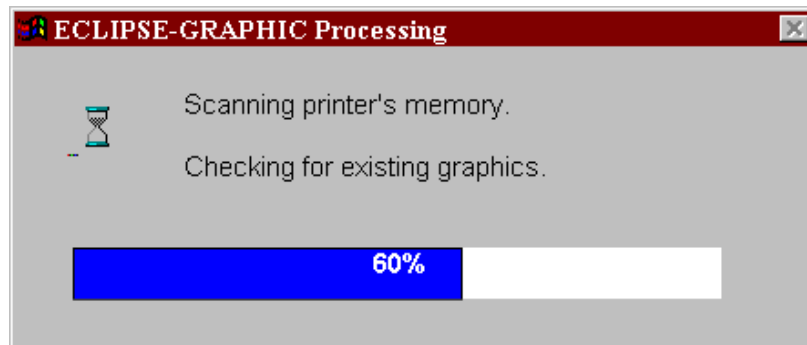
At the completion of the memory scan, a window will be displayed showing a "directory" listing of the available memory modules and any graphic images that have been loaded. The user should see similar results as the example below.

```
View Memo                                    _ □ ✕

MODULE: A
ABCLOGOB
AVAILABLE BYTES IN MODULE : 00258763
MODULE: B
AVAILABLE BYTES IN MODULE : 00016000




                                      Clear    Close
```
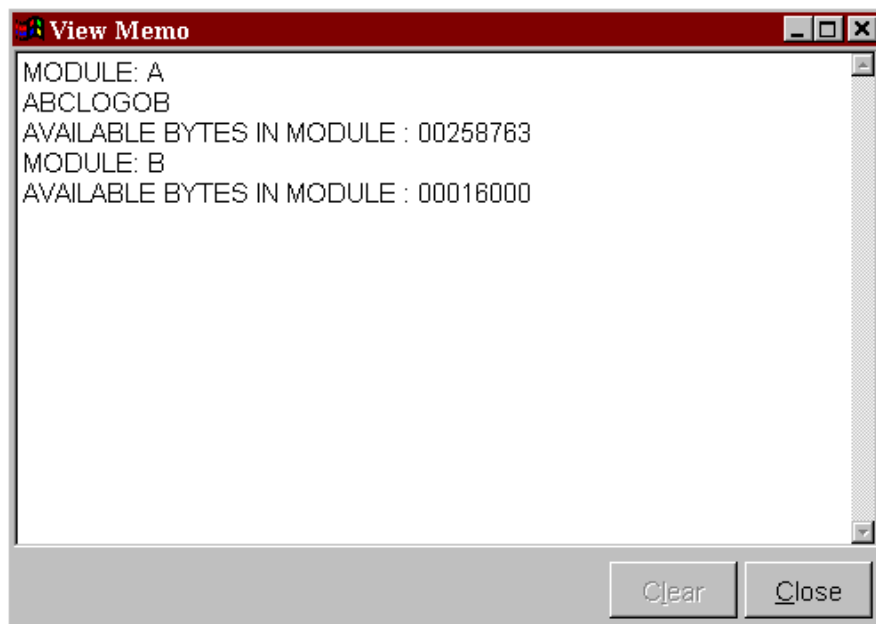
Format Memory

This function will initialize the memory modules where the graphics are stored. This will allow for the graphic to be downloaded. Click on the "Format Memory" command button to begin the formatting process. A pop up window will display the status of the memory format as shown below.

This will also clear the memory of any existing graphics.
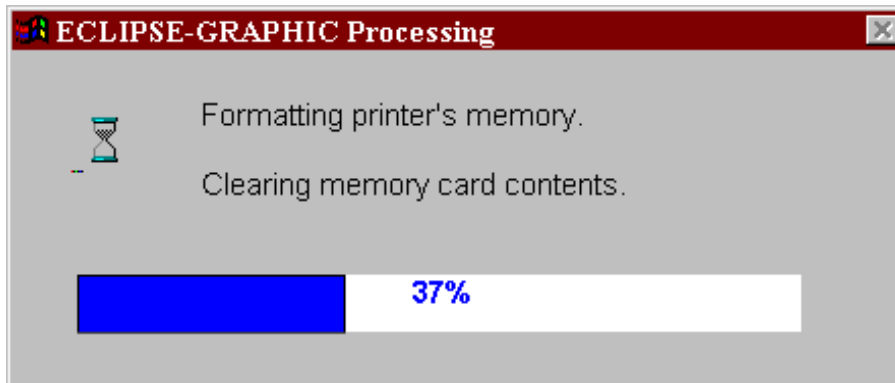
Test Memory

Tests the flash memory for problem areas. Some memory cards or modules may become corrupted or contain bad memory locations. Clicking the "Test Memory" command button can test for such items.

The "Test Memory" procedure will also clear the memory of any existing graphics! A warning will be displayed before a graphic is erased.

Click on the "Proceed" command button to continue with the memory test process. Any existing graphics will be cleared. Click on "Cancel" to escape the memory test mode.

ECLIPSE-GRAPHIC Warning ☒

❌ Testing the printer's memory will erase any stored graphics!

[Proceed] [Cancel]

If memory test is continued and allowed to complete, it will then post a window showing the results of the memory scan. The display will include a "Good" or "Bad" result regarding the condition of the memory card or module. If the result is "Bad", the card or module should be replaced.

View Memo _ ☐ ☒

MODULE: A
AVAILABLE BYTES IN MODULE : 00262143
MODULE: B
AVAILABLE BYTES IN MODULE : 00016000

Memory test: GOOD

[Clear] [Close]

Custom Lists

Eclipse provides an enormous amount of production information ranging from the type of material being used to the name of the operator. However, there are unique situations and requirements for information that is not the "Norm".

In order to meet this need, Eclipse has an optional software module called "Custom Lists". If the option is included, Eclipse will enable the user to create customized lists of prompts and replies. These lists contain labels that can be selected by the operator. Each label is associated with a unique numbering scheme that is reported back to Eclipse in the form of data collection and reports. Eclipse can contain multiple custom menus, with each list having multiple levels of sub-lists (if needed).

Setting up a Custom Menu

Click on the "Custom Lists" selection under the "Controller" menu. The initial screen will have a single entry called "Custom Menu". To customize the label, select the second tabbed page named "Item Detail (2)". Since this is the first level of the only custom menu, the identifier number for this selection is "1". Type in the desired menu name in the "List Option" field. The following example shows the menu name as "Quality Control".

If the information to be collected is to be included on the Quality Assurance Report, the "QC" checkbox must be checked. If the information reported does not need to be reported on or if the information is something other than quality control, the box should be left unchecked. All sub-items within a selected menu will reflect the same "QC" status as the top level of the menu has. A checked "QC" box and menu navigation arrows are shown.

The navigation arrows allow the user to go up or down the menu list without having to tab to the first page of the window. The standard arrows located in the center will move up or down one level at a time. The blocked Up-Arrow at the top takes the user to the top level, while the blocked Down-Arrow at the bottom takes the user to the last level.

The next section is called the "Return Value" section. Setting this information will turn the data collected at the controller into user friendly data that can be processed into reports and hard data. Refer to the figure below as each section is described.

Return Value

Type	Selects the type of data that will be entered into this field at the controller. The value can be a simple menu selection, a text entry, a number with specific units, or a selection list that can be toggled through at the controller.
Length	This is the field length allowed for the specific data that is to be entered at the controller. When the "Number" type is selected, this includes all digits to the left and right of the decimal and the decimal itself.

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Decimals	When the "Number" type has been selected, this field displays how many digits to the right of the decimal will be allowed.
Neg.	This checkbox means that when this field has an entry, it is to be considered a negative value. The AMS controller does not support entry of negative numbers. Checking this box for a specific entry assigns a negative value to the data that is returned from the AMS controller. For example, a menu entry such as "Length short by" can be assigned a negative value by checking the "Neg." box.
Units	When the "Number" type has been selected, this drop-down list allows the user to select what unit the number is to be associated with. If the unit selection of "Inches" is selected, the number 120.125 will be displayed in the inches format on the AMS controller.
Value String	All field types except for the "Menu" type require information to be input. The Value string provides default selections, minimum and maximum ranges, and text selections for the operator of the controller to select from. Depending on the "type" selected, one or multiple controls may apply. If the user places the mouse pointer on the field, a description of what is required will be displayed. See the following figure.

The remaining window items display the available controllers and what messages are set for each one. The Top level menu selection determines whether all of the sub-items are displayed as "This List" or not. The example menu has been assigned to machine #13 only. Only one top-level menu can be downloaded to the controller at a time. However, several different sub-menus can be included within the top-level menu, creating multiple sets of sub-menus.

Adding Sub-items.

Select tabbed page #1 to see the "Outline View". It is recommended to have an outline prepared before entering the information into the pc.

Highlight the item to which sub-items are to be applied. Select the "Add Sub-Item" command button to create a new sub-item. Once the sub-item is created, the screen goes to the "Item Detail" page to be setup. Set the name for the sub-item and specify the operating parameters as previously described.

Go back to the first tabbed page (Outline View) and verify proper placement of the sub-item. Another item may be added to the first level item or to the second level item. Continue adding items and sub items for as many levels as required. See the example below.

```
Custom Lists                                                    _ □ ✕

        Outline View (1)                        Item Detail (2)

 ─ 📁(1) Quality Control
     📄(100) Length Tolerance
   ─📁(101) Material Condition
     📄(1010) Guage
     📄(1011) Width
     📄(1012) Finish
   ─📁(102) Form Quality
     📄(1020) Good Quality All Around
     📄(1021) Good Form, Bow in Product
     📄(1022) Straight Product, Form Poor
     📄(1023) Poor Form and Bow in Product
   📄(1024) Comments

   Print   New Item      Add Sub-Item  Delete  Send List   Save   Revert   Close
```
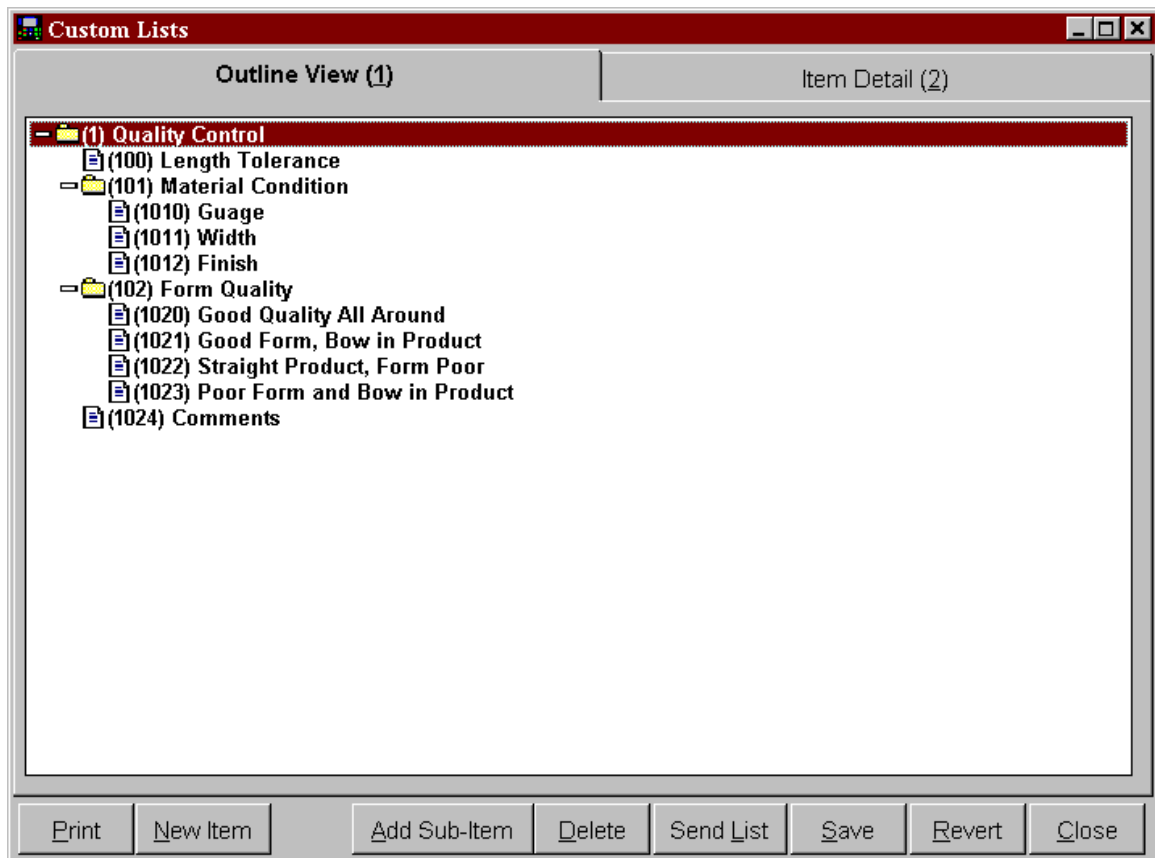
Each of the specific data "Type" will be discussed in further detail.

Menu Item

The "Menu Item" provides the most basic entry for the machine operator. The operator simply selects the menu item to proceed to the next menu (if one exists). Page selections are recorded using the number identifier.

Looking at the "Outline View" on tabbed page one (to the right), both "files" and "pages" are shown. The pages contain the pertinent information that is being sought. Only page information is reported to the pc. The example below shows the identifier as #1020.
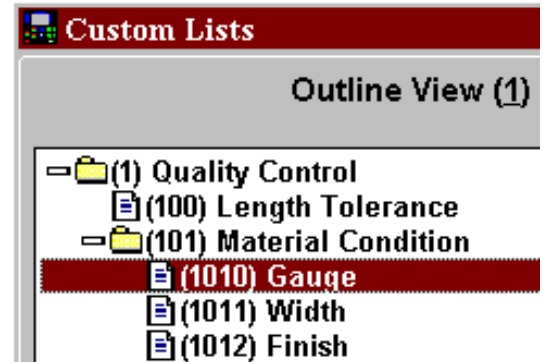
When the operator selects the "Good Quality All Around" menu selection, the controller will send a message indicating that item #1020 was selected at the controller.

Since no value is required to be input with the "Menu item" type setting, the remaining fields will be grayed out and not used.

Text

Selecting the "Text" type of format allows the operator to input standard text into the field at the controller. If "Text" is selected, two additional fields will be required.

The "Length" field will need to be specified. This will control how large of a text field will be reserved for the text entry. Leave enough room for an adequate descriptive input, yet keep the entry small enough reports will not be overrun by excess lines of information.

The "Value String" field will need to be setup. When in "Text" mode, this field simply provides what initial default text will be seen by the machine operator. After the text is changed by the operator, the replacement text will be present the next time the screen is entered and will remain there until changed. If the controller's memory is cleared or the custom menus are resent to the controller, the default message will again be displayed. The default must be followed by a dollar sign "$" to signify the end of the text message.

Number

The "Number" type enables the operator to input a numeric value. This value can be set up in different types of units from lengths to weight to percentages.

When the Type is set to "Number", all fields are activated. The "Units" field provides the drop down list from which to select the format for the numeric entry.

The examples to the right and below both show "inches" as the selected format for the entry. This allows the data to be clearer to the operator.

The "Value String" will contain three different pieces of information, each one being separated by the dollar sign "$" and ending with the dollar sign. The first value will be the default value that will be initially displayed to the operator, the second value will set the bottom limit for the number being entered, and the third value will set the upper limit for the number being entered.

Units	
Inches	
No Units	0
Length	1
Velocity	2
Feet	3
Inches	4
Acceleration	5
Seconds	6

Custom Lists

Outline View (1)	Item Detail (2)

Identifier: 100
List Option: Length Tolerance
QC List: ☑

Return Value

Type	Length - Decimals		Neg.	Units
Number	7	3	☐	Inches

Value String: 000.000$000.000$999.999$

Unit ID	Machine	This List	Other Lists	
13	XL212ES-FTS-12P-1V [13]	☑	☐	
14	XL212ES-FTS-1P-27G-1 [14]	☐	☐	

Print | New Item | Add Sub-Item | Delete | Send List | Save | Revert | Close

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From List

The last type setting is the "From List" selection. This enables the operator to pick from a pre-existing list of selections. The Value String contains the list from which the operator will choose.

Each selection is typed into the "Value String" field with a dollar sign "$" separating each selection. A dollar sign must also be at the end of the string.

The "Length" field must contain a number that reflects the number of characters and operators in the longest selection.

The operator will see the "Gauge" entry at the controller with the first value string item being displayed. The operator can then toggle through the remaining choices, pressing the "enter" key when displaying the desired selection.

Snapshot

"A picture is worth a thousand words" is often heard when trying to describe something in detail. Eclipse takes this saying seriously and provides a graphic description of a lines productivity in the "Snapshot" display. "Snapshot" can be selected from the "Controller" menu, selected from the main status window by clicking on the "Snapshot" field of a selected machine, or by running the stand-alone program of XLGraph.exe.

Graph
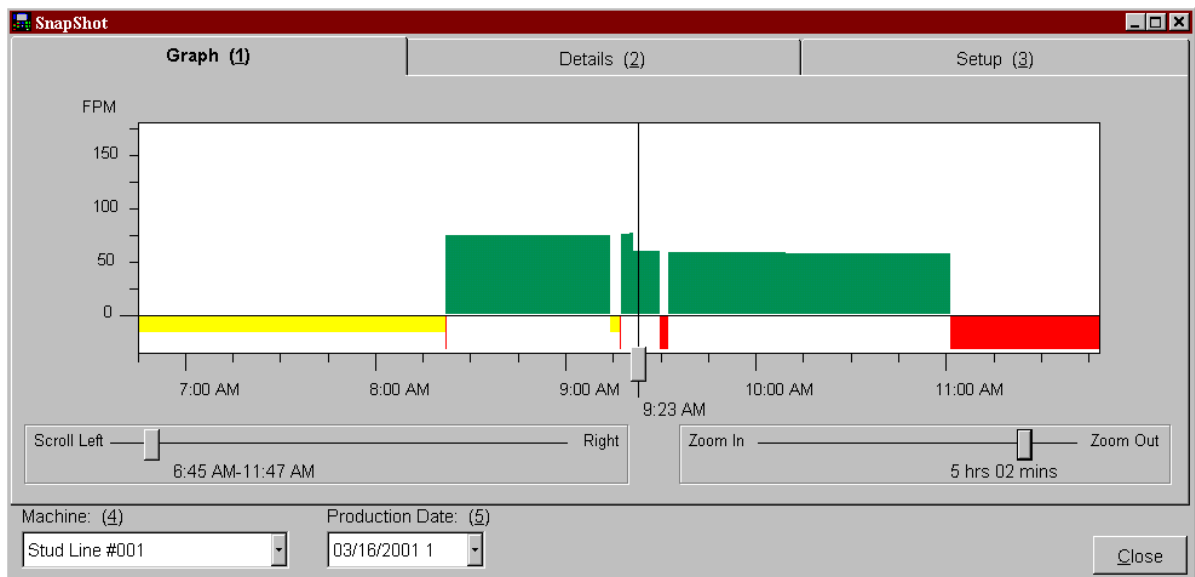
The example above shows Machine #1 (Stud Line #001) and its productivity from 7:00 AM to 11:30 AM. The horizontal portion of the graph represents time. The vertical portion of the graph shows line speed as indicated in FPM (Feet Per Minute). As we can see from the graph, Stud Line #001 runs around 70 to 75 FPM.

Yellow highlights show production delays that are exempt from standard reporting. The red highlights show delays that are not exempt and should be examined for the cause of the problem.

The green highlights display the periods when the machine was running product. The taller the green display, the faster the line was running. As you

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eclipse™

AMS CONTROLS

can see on the example, the line was slowed down at approximately 9:20 AM.

If the current date and shift is being graphed, the graph will refresh as new production information is reported.

An additional feature is the ability to display critical data about a colored bar by simply clicking on it with the mouse. Clicking on any colored bar will open a yellow window with customized information regarding that particular section of time. For instance, the graph below shows an info window after a run time segment was clicked on.

Three items are displayed within the box (the duration of the run cycle, the order number, and the average line speed).
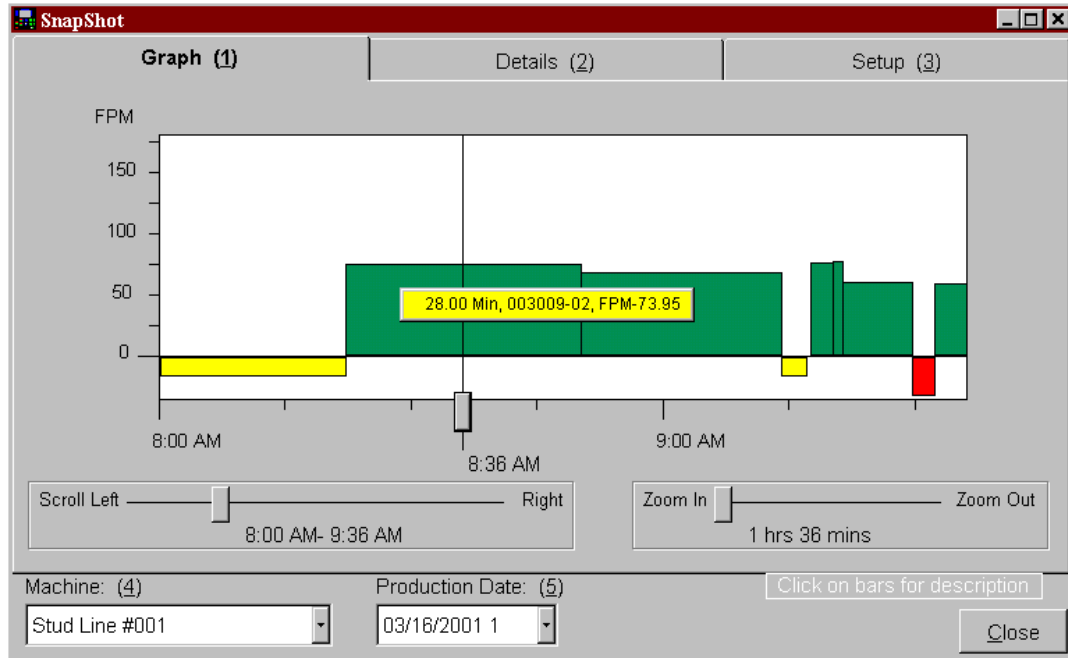
The items displayed in the info box are customized by what is selected in the Setup tabbed page. We will discuss this page shortly.

A "hair line" is displayed on the screen that will pinpoint a specific occurrence for the "Detail" tabbed page. Place this hairline at points of interest so that details may be easily located.

Scroll (Left to Right)

The "Scroll" adjustable bar can move the entire graph backward or forward in time in order to examine other time periods. Scrolling left goes backward in time; right goes forward in time.

Zoom (In / Out)

The Zoom feature shows you the production graph in a lesser or greater time range. The example below shows the same period of time, but views at it as a roughly two - hour period rather than the previous 5 - hour range. Now the results can be viewed in much greater detail.

The zoom feature can be expanded out to the entire length of the shift. This enables the user to view an entire shift at one time. All System starts, halts, and delays will be recorded and viewed in the "Snapshot" screen.
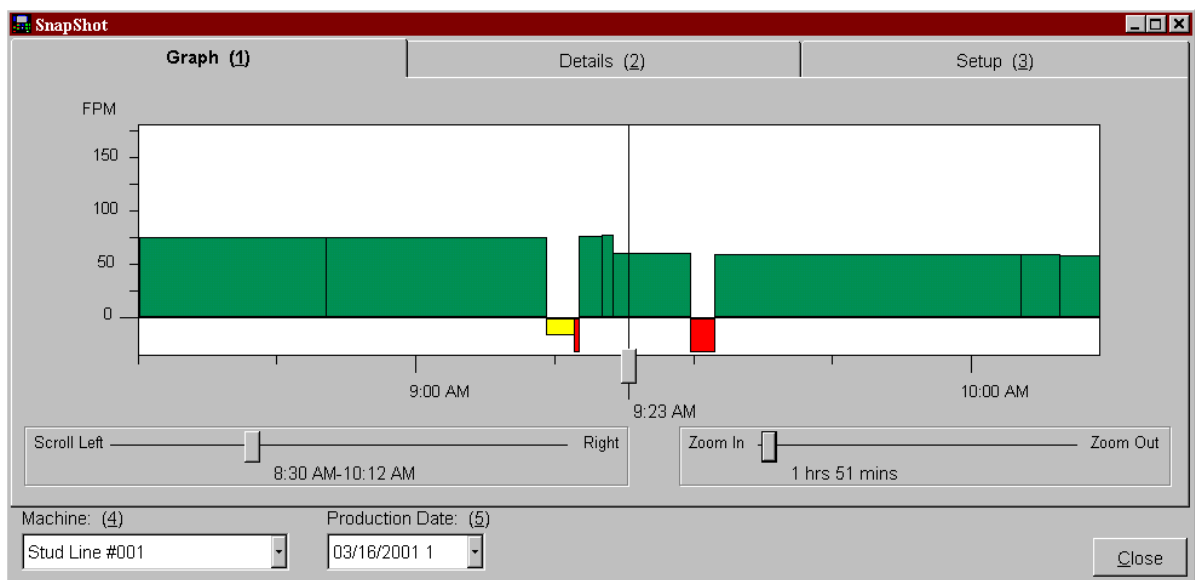
Note that there are two drop-down lists supplied in order to get only the information that is desired. Select the "Machine" desired and the appropriate "Production Date" (and shift) and the proper graphic will be displayed.

Details

The graphic display that "Snapshot" provides gives a concise overview of the productivity of any given line. Can even greater detail be provided?

Select the "Detail" tabbed page to show production details. All items related to productivity can be included in this window. As the display shows, run times and delays times can be viewed. As before, non-exempt delays are shown in red; exempt delays in yellow. Run time is now shown in black. Upon opening the details tabbed page, the highlighted item is determined by the location of the "hairline" scrollable bar locate on the graph.

Start times, End times, Duration, Average in FPM, and many other details are displayed for each recorded period. The information on this screen is very similar to the information that can be found on a production report.

As before, drop down lists for the "Machine" selection and the "Production Date" and shift are provided and can be changed in this screen.

Setup

The details that are displayed on a bar description can be customized by the user. This is when the user clicks on a specific bar on the graph. Customized information regarding that specific occurrence in time as indicated by the scroll bar is displayed in an information box.

This information is customized by the settings in this screen. Click on the "Setup" tab to display the respective screen.

The user is to select only the fields that should be displayed in the information box on the graphic display. Highlight the fields that should be displayed in the "Available Fields" windows. To select them, click the "Add" button for both the selected fields in the "Runtime Descriptions" and the "Delay Descriptions". They will then appear on the right-hand side of the screen under "Selected Fields"

To remove a field(s), simply highlight the field and click on "Remove". "Remove All" will remove all fields from the selected window.

Reports

Eclipse Software can produce a variety of production information and store it in a database. Eclipse can also generate reports that are designed to make the information useful.

When the "Production Tracking" software option is included with Eclipse, a variety of reports will be included that will allow the user to determine what is successful or lacking in the production process. For example, the user will be able to verify the quality of in-bound material, throughput for a specific shift(s), and the causes for machine downtime.
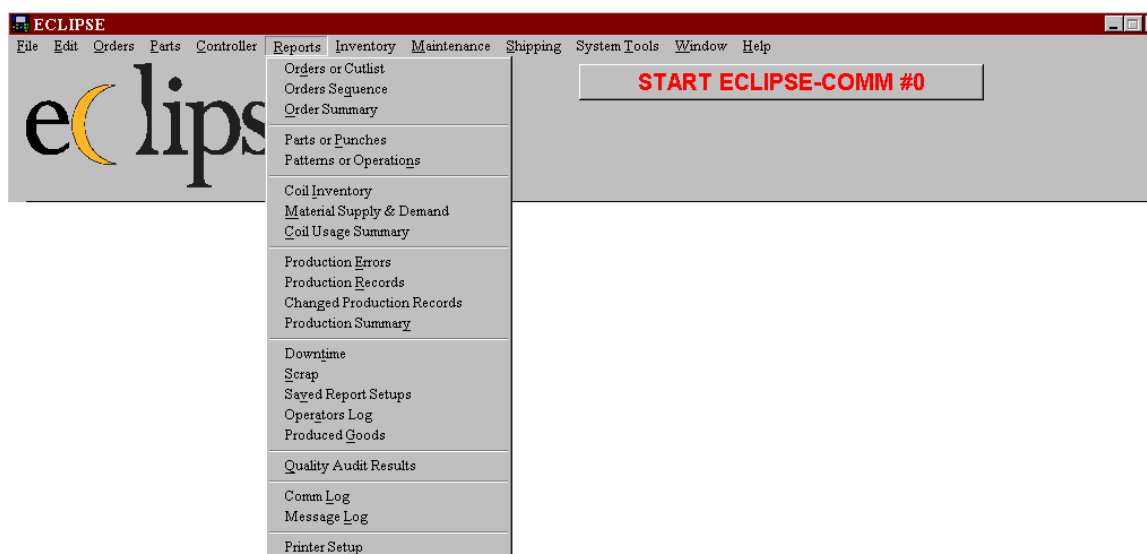
Eclipse reports can focus on exact dates and times. Reports can be modified further by using filters to narrow the scope of information, therefore providing the most useful data.

Before discussing the reports, let's first review the dating and filter procedures that are common to most reports.

Setting up a Report

Every report has a setup screen consisting of 2 or more tabbed pages that set the parameters for what is included on the report. Most of these setup pages consist of the "Main Subject" selection page and the "Filter" selection page. The "Main Subject" is described as the "field" or the "date regarding the field" being reported and is always the 1st tabbed page.

For example, the main subject for a report on the coil inventory would be "coil numbers". The main subject for a shift report will be the date and shift selection for production shifts.

One of two "Main Subject" page types will be displayed for a given report. In some of the reports, the date and time will be the selectable field. This can be termed a "**Date Driven**" Main subject page. Examples would be "Production Records" and "Coil Usage Summary" reports. "**Subject Driven**" reports will be selectable to a specific item such as the coil number in the "Coil Inventory" report or the order number in the "Orders and Cutlist" report.

An example for both types of "Main Subject" pages will be shown in this section, starting with the "Date Driven Main Subject" page. The "Subject Driven Main Subject" page will be looked at on page 6-7.

Some of the reports may have an additional tabbed page named "Machine" used to detail the information collected for a specific machine or machine group.

Let's look at the "Main Subject" screen. This screen will be the first tabbed page for the setup of each report. We will use the "Production Records" Report setup screen for our example.

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"Main Subject" (Date Driven Page)

The "Main Subject" page contains the selection of the specific category that is being reported on. In the example using "Production Records", it will be the "Production Dates" screen.

Note that the page is selectable by Dates and times of events that relate to the occurrence of production records.

There are several ways for selecting the specific field or range of fields for reporting. Dates and shifts can be manually highlighted on the "Date-Shift" grid. Simply highlight the appropriate date and reports will be generated pertaining to the selected date.

The user can select a date or a date range by choosing rules available on the screen.

"Date-Shift" Selection Checkboxes

Shift 1, Shift 2, Shift 3 Each shift can be selected or deselected by adding or removing the checkmark from these boxes. In the example above, only production information from shift 1 and shift 2 will be enabled.

Select all dates Clicking on this selection will highlight all production dates and shifts in the "Date-Shift" field, except for shifts that are not selected in the "Shifts" checkboxes.

Select current week Clicking on this checkbox to will highlight all shifts for the current week (as limited by the shift check boxes).

Select previous week Selecting this option will highlight the previous weeks production dates and shifts (as allowed by the shift selections)

Select current month Selects all production dates within the current month. In the last example, this would be anything for the month of March. (Shifts restricted by shift selections)

Select previous month This choice will select all dates from the previous month. In the last example, this would select all dates in February. (Restricted by shift selections)

The user can also select a range of dates by simply highlighting the earliest desired date, then pressing the "shift" key on the computer keyboard and selecting the latest date. All dates and shifts between those two timeframes will be highlighted and included in the report.

Selecting from a Date Range

A range of dates can be selected as well. The following example shows the "From" date selection as "03/14/2001" and the "To" selection as "03-19-2001". The respective production dates have been highlighted in the "Date-Shift" grid.

Browsing

Not only can recent history files be displayed and printed, but items that have been archived can also be obtained through the browse (…) feature. Click on the Browse icon (…) and a browse window will be displayed. This will locate production history records saved in different locations.

Locate Date

Specific Production dates and shifts can be easily found by using the *"Locate Date"* command button. The Locate Date button is used when the desired date is known.

For example, you can search for all production dates for a specific year and month as shown in the following example. Year "2001" and month "03" have been requested.
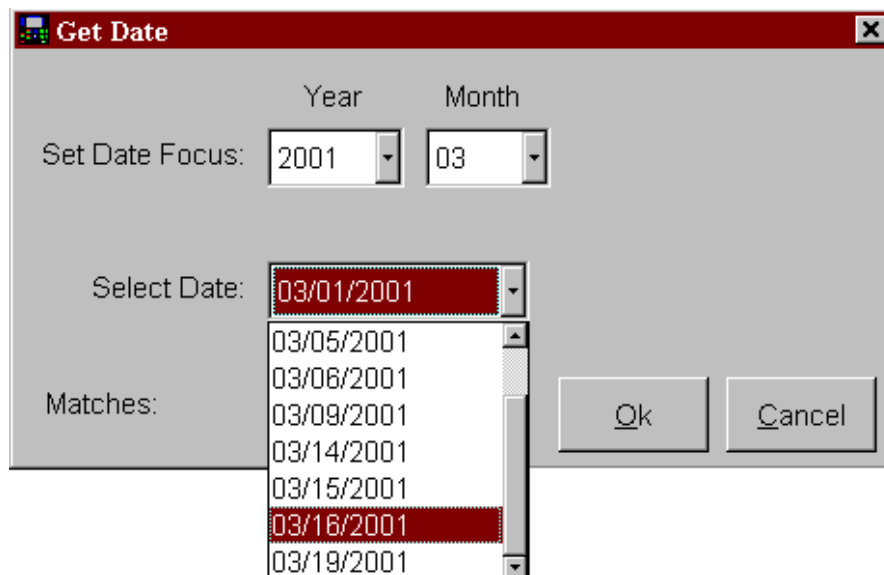
The example produces a total of nine matches. Clicking on the date drop down list shows the selections. After the desired date is found, select it from the list and press the "OK" button.

"Main Subject" (Subject Driven Page)

Some of the reports will use a slightly different "Main subject" page. The previous examples have been "Date Driven" pages (records and reports that are selectable by the associated date). The next examples will cover the "Subject Driven" type of "Main Subject" page. Like the date driven pages, Subject Driven pages will always be on tabbed page #1. The following example is from the "Coil Inventory" report.

The "Locate" and "Print functions work identically as the date-driven main subject pages. The checkboxes are not used on subject driven pages.

Subject-driven Page Features

Column Display

The subject and its associated attributes will be displayed in a data field organized by column titles. In the example above, "Coil Number" is the main subject column (shown first), and is followed by attributes for a coil number such as "Material", "Coil Description", etc.

Sequence Selection

This field can be reorganized to locate specific subject selections or their attributes easily (by alphabetical or numerical order). Selecting the subject or a sequence attribute will do this. The previous example shows the data grid sequenced by the "Coil Number". If desired, the "Date In" attribute may be used to sequence the list in the order that each coil was entered into the system.

Whichever field is used for sequencing, the data grid will be displayed in alphabetical order (or numerical order) within the selected field. Selecting the **"Descending" checkbox** can reverse this display**.**

Number of "subject" displayed

This field displays the number of rows that match the criteria set by the filter. In the last screen example, there are a total of 12 coils that match the associated criteria.

Report (Selection)

This drop down list (when included) will show the reports that can be printed for the subject that has been selected. At least one subject supports as many as four different report options that can be selected.

Printing

Reports can be viewed on screen or printed out to a designated printer. Click on the "Print" command button to print or display the desired report. This will display a window that will determine how the user wishes to view the information. Selecting "Cancel" at any time will halt the printing process.
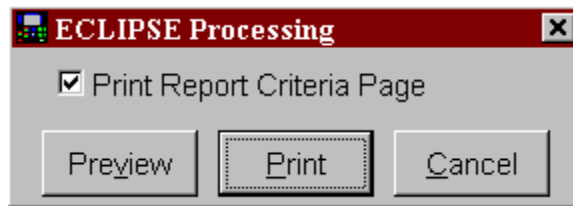
Print Report Criteria Page

If this checkbox is checked, each report will have an additional page(s) showing the production dates that are included in the initial report. The form below displays the criteria portion of a "Production Report".

```
XYZ Metals                      PRODUCTION SUMMARY          11/28/2001   Time:  10:26:37


      Report Criteria:


           Filter: Production Dates = 01/01/2080  1:03/01/2001  2:03/02/2001  1:03/01/2001  1:03/02/2001
                   2:03/05/2001  1:03/05/2001  2:03/06/2001  1:03/06/2001  2:03/09/2001  2:03/14/2001
                   1:03/14/2001  2:03/15/2001  1:03/15/2001  2:03/16/2001  1:03/16/2001  2:03/19/2001
                   1:03/19/2001  2:03/30/2001  2:04/04/2001  1:04/04/2001  2:04/06/2001  2:04/10/2001
                   1:04/09/2001  1:04/11/2001  1:04/16/2001  1:07/11/2001  2:07/12/2001  1:07/12/2001
                   2:07/13/2001  1:07/13/2001  2:07/16/2001  1:07/16/2001  2:07/17/2001  1:09/24/2001
                   1:09/25/2001  1:09/25/2001  2:09/26/2001  1:09/26/2001  2:09/27/2001  1:09/27/2001
                   2:10/08/2001  1:10/08/2001  2:10/10/2001  1:10/16/2001  1:10/24/2001  1:10/25/2001
                   1:10/25/2001  2:10/26/2001  1:10/26/2001  2:10/31/2001  1:10/31/2001  2:11/01/2001
                   1:11/02/2001  1:11/02/2001  2:11/05/2001  2:11/06/2001  1:11/08/2001
                   1:11/21/2001  1:11/27/2001  1:11/07/2001  1:11/20/2001  1:11/20/2001  2:11/26/2001  1:
                   Product Code = :S0010:S0015:S0017:
                   Machine Group = :SL:
```

Preview   Selecting the "Preview" command button will provide the typical preview screen. This provides a detailed view of the form as it will be printed.

The preview can be zoomed in to view at information in detail, or pan outward to view the entire form. The form can be viewed in a percentage increment of the standard form size. The example above shows the view to be "100%". Selecting the dropdown list on the "Print Preview" tool bar offers these different views.

The arrows on the "Print Preview" toolbar will move the user to previous page (**<**) or succeeding (**>**) pages. Arrows with a bar will move display to the very first page (**I<**) or the very last page (**>I**).

The report can also be printed from this screen by pressing the printer icon on the "Print Preview" toolbar.

Print   Click the "Print" command button. The selected printer will begin to print. While the system is printing, it will display the subject of the file being printed.

Print All   Information regarding all machines will be printed if "Print All" is chosen. Printed reports can contain all information displayed on the "Main Subject" grid, or only selected items within the list. This is controlled by the choice of selecting either "Print All" or "Selected". Only one can be selected at a time.

Selected   Information regarding only those machines that are highlighted will be printed if "Selected" is chosen. Printed reports can contain all information displayed on the "Main Subject" grid, or only selected items within the list. This is controlled by the choice of selecting either "Print All" or "Selected". Only one can be selected at a time.

"Main Subject Page" Differences

The "Main Subject" screen reviewed in this section used the "Production Records" report for its examples. The "Main Subject" window for different reports will have a common style, but each will have slight variations depending on the information being gathered. Most of these differences will be self-apparent, but any major changes will be discussed in more detail within the pages for that particular report.

Filters

The tabbed page titled "Filters" is used to narrow down information for items having specific properties (or attributes). In the example below two filters have been selected. This is displayed at the bottom of the screen next to the "Filter" display.

The "Filter Field" table shows that the "SL" machine group and three product codes ("S0010", S0015", & "S0017") have been selected in their respective fields. This means that only production information involving machines in the "SL" machine group and those with produced product belonging to one of the three product codes will be displayed or reported.

Select

To edit a filter field item, highlight the field and click on the "Select" command button. This will open a new window that will display the possible selections within that field.
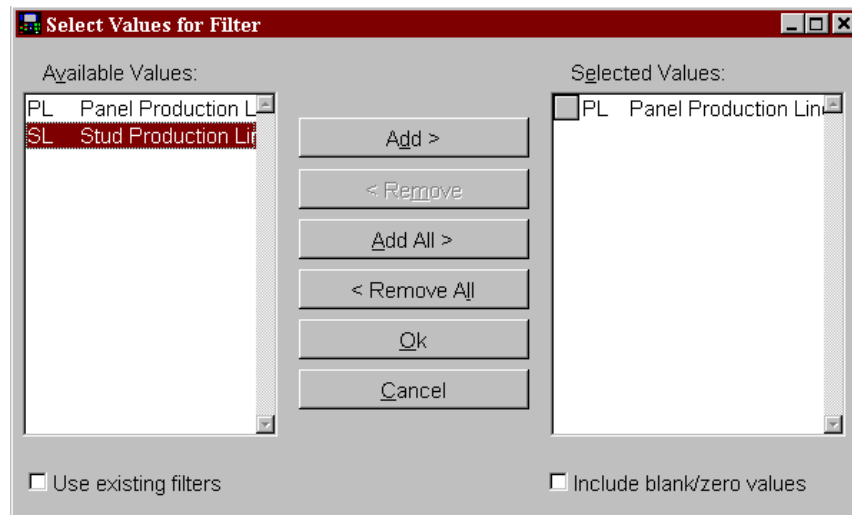
The "Select Values for Filter" window will display the "Available Values" for the selected field on the left hand side in a drop down list. A single value or multiple values can be transferred from the "Available" values list to the "Selected Values" list located on the right hand side of the window.

"Selecting" filters

In order to select an item to filter, highlight the item. If multiple items are desired, highlight an item, then press the "CTRL" key on the keyboard and click on any other selections that need to be highlighted. Once the desired values are highlighted, click on the "Add" command button. This will move all highlighted values to the "Selected Values" drop down list. If all values are to be added, then simply click on the "Add All" command button.

Once the appropriate values are selected, press "OK" to save the filter settings. Select Cancel if no change is desired and any values that were added or removed will default back to their original status before the window was opened.

"Removing" filters

The "Remove" button can be used to de-select values or group of values. Clicking on the "Remove All" command button will clear the "Selected Value" of all values and put them back in the "Available Items".

Machines

Some of the report setup windows have a tabbed page selection called "Machines". This field is used to select only specific machines or machine groups to be reported on. Machines that are not selected will be omitted from displayed information and reports when the print "Selected" button is active.

In the above example, a single machine (Stud Line #001) has been selected. The "[1]" next to the machine name indicates that this is actually machine ID #1. Information will be reported and displayed for only this selected machine. Multiple machines can be selected by highlighting the first machine to be included, then pressing on the "CTRL" key on the keyboard while clicking on other desired machines.

Once the user makes the selections and exits the "Machines" page, the selections will be applied to all reports and displays. When the "Machines" tabbed page is reentered, the selections are cleared and will need to be re-selected.

"Orders and Cutlist" Report

The "Orders and Cutlist" report will print out information regarding specific orders and their related cultists. Three different report options are available on the "Report" drop down list. Each report will be explained and an example display provided.

Before selecting the "Print" command button, select a report option from the "Report" drop down list. Choices or "Order List", "Cut List", and "Schedule Detail List" are provided. Highlight the report option that is desired and click on the "Print" command button.

"Order List" Report option for Orders and Cutlist

```
XYZ Metals                           Orders Summary List

Order          Work Order       Product Code    Material           Type    Footage    Status       Sch_date

      Machine:  NONE     [0]
003-010-12                        Z2011      ROX-14-12                      28917 UNSCHED      /  /
003-012-34                        Z2011      ROX-18-10                       8335 UNSCHED      /  /
003009-04                         Z2011      ROX-14-12                      28917 UNSCHED      /  /
003009-W1                         Z2011      ROX-14-12                      28917 UNSCHED      /  /
003012-21                         SH015      GLV-8.0-12                     25200 UNSCHED      /  /
003015-T15                        S0017      GLV-8.0-14                     13130 UNSCHED      /  /
003021-k16                        S0015      GLV-8.0-14                     11437 UNSCHED      /  /
004012-k11                        S0017      GLV-8.0-14                     25200 UNSCHED      /  /
005007-CLC                        P1030      42-18-TAN                          0 UNSCHED      /  /
007012-Z01                        S0017      GLV-8.0-14                     25200 UNSCHED      /  /
007012-Z03                        S0015      GLV-8.0-12                     25200 UNSCHED      /  /
                                  Total Remaining for NONE     [0]        220453
```

This report option will include a summary of all orders (as filtered in the "Filter" screen). Typical order information such as product code, material, footage, status, and scheduled date is included with each displayed order.

This is the simplest of the three report options that is available.

"Cut List" Report option for Orders and Cutlist

```
XYZ Metals
        Machine:  NONE     [0]
Order Number  003-010-12                    Material  ROX-14-12              Product Code  Z2011    Type
              Work Order

  Bundle  Qty          Length in        Hole Count    Offset          Part Number                    Qty Done
      1    2000                0.000"      0          0.000"    Zee-alpha                                0
      2    1500                0.000"      0          0.000"    Zee-Beta                                 0
Order Number  003-012-34                    Material  ROX-18-10              Product Code  Z2011    Type
              Work Order

  Bundle  Qty          Length in        Hole Count    Offset          Part Number                    Qty Done
      1    300                 0.000"      0          0.000"                                             0
      1    286                 0.000"      0          0.000"                                             0
      2    200                 0.000"      0          0.000"                                             0
Order Number  003009-04                     Material  ROX-14-12              Product Code  Z2011    Type
              Work Order

  Bundle  Qty          Length in        Hole Count    Offset          Part Number                    Qty Done
      1    2000                0.000"      0          0.000"    Zee-alpha                                0
      2    1500                0.000"      0          0.000"    Zee-Beta                                 0
Order Number  003009-W1                     Material  ROX-14-12              Product Code  Z2011    Type
              Work Order

  Bundle  Qty          Length in        Hole Count    Offset          Part Number                    Qty Done
      1    2000                0.000"      0          0.000"    Zee-alpha                                0
      2    1500                0.000"      0          0.000"    Zee-Beta                                 0
Order Number  003012-21                     Material  GLV-8.0-12            Product Code  SH015    Type
              Work Order
```

The second available report is the "Cutlist" report. This will provide deeper detail on the actual lift items within the selected orders.

Items included in the "Cutlist" option of this report are the Bundle Quantity, quantity, Length in(ches), Hole Count, offset, and part number.

"Schedule Details List" Report option for Orders and Cutlist

```
XYZ Metals


                                                               Inits

    Machine   Panel Line # 101

  Order Number              Material              Product Code       Type      Seq #
  003012-01           46-16-GRN-P          P1022                                2
          Customer Name
     Alexanader Corp.

                                    Part Number/   Total      Total
  Bundle  Qty       Length In.         Option     Length      Weight    Inits
      1    600   268.000 (22' 4.000")   /R        13400.000   15276.000
      2    559   245.000 (20' 5.000")   /R        11412.916   13010.725
      2    300   232.000 (19' 4.000")   /R         5800.000    6612.000

   Order Footage         30612.91 ft
   Order Weight          34898.72 lb.
```

The "Schedule Details List" report displays each order (allowed by the filter selections) and all of its details including a full cutlist, material, product code, type, sequence assignment, and customer name. The weight and length is given or for the total order and for each individual lift.

"Orders Sequence" Report

The Order Sequence report provides information on those orders which contain a sequence number and therefore are set up to be automatically requested from the controllers. Each machine may have a number of orders that are "ready" for download and each is assigned a sequence number. This number determines in what order these jobs will be downloaded to the controllers.
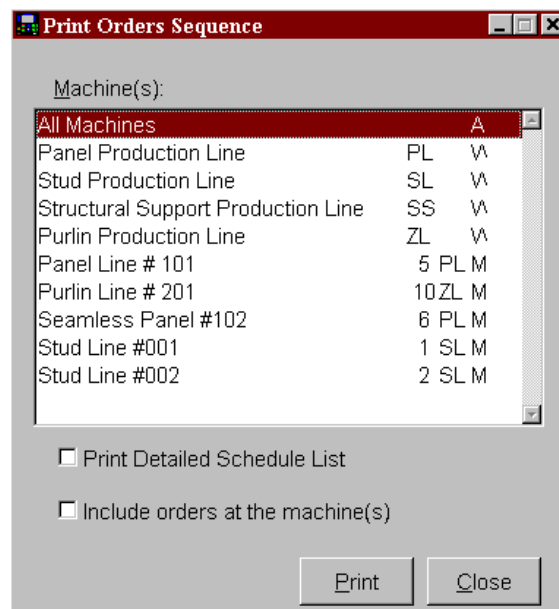
Machines

A particular machine, machine group, or all machines can be reported on at one time. See the example below. "All Machines" have been selected. This means that any machine that has orders "assigned" to it will be included in the report, along with the assigned (Sequenced) orders.

Print Detailed Schedule List

Checking this option will cause the actual cutlist for each assigned order to be printed with the order.

Include orders at the machine(s)

Checking this option will report on all sequenced orders either at the controller or awaiting download. The sequenced orders will have length subtotals for each material and a grand total for the overall length of the order.

```
XYZ Metals                          Order Summary

                    Seq #     Order #     Material        Weight    Length Ft.
Machine Stud Line #0
                     2        003012-21   GLV-8.0-12          0      25200.000
                     3        003012-33   GLV-8.0-12
                                          Material Total:    0 lb.   50400.00 ft.

                     4        003012-10   GLV-8.0-14                 11436.666
                                          Material Total:    0 lb.   11436.66 ft.

                                                  Total:    0 lb.   61836.66 ft.


Machine Panel Line #
                     4        003016-P34  42-16-WHT                  30612.916
                                          Material Total:    0 lb.   30612.91 ft.

                                                  Total:    0 lb.   30612.91 ft.


Machine Seamless Pan
                     1        003009-03   42-18-TAN                  33000.000
                     2        003009-R1   42-18-TAN
                     3        003012-02   42-18-TAN                  30612.916
                                          Material Total:    0 lb.   96612.91 ft.

                                                  Total:    0 lb.   96612.91 ft.
```

The above report is displayed when selecting the "Orders Sequence" report and selecting a specific machine(s) to report. A summary is shown if no option boxes are checked for the report

The name of each selected machine is printed. With it are all "assigned" orders including the "order sequence number (Seq#), the order number, the material for the order, total weight of the order and the total length of the order in feet.

The sequence number is attached to any order that is "assigned". The sequence number represents an order's location in downloading priority. For instance, the lowest number will be the next order to be sent to the controller.

If the "**Print Detailed Schedule List**" checkbox is checked, a slightly different report will be printed. The new format will print each order individually (less summarized) and include additional details including a complete cutlist, Part number, options and product code.

XYZ Metals

Schedule Details

Machine Panel Line

Order Number	Material	Product Code	Seq #
003016-P34	42-16-WHT	P1022	4

Bundle	Qty	Length In.	Part Number/ Option	Total Length	Total Weight	Inits
1	600	268.000 (22' 4.000")	/R	13400.000	15008.000	
2	559	245.000 (20' 5.000")	/R	11412.916	12782.466	
2	300	232.000 (19' 4.000")	/R	5800.000	6496.000	

Order Footage	30612.91 ft
Order Weight	34286.46 lb.

Total Length	30612.91 ft
Total Weight	34286.46 lb.

Order Summary

Select "Order Summary" from the "Reports" drop down list. As discussed in the first section of this chapter, select the dates and shifts that reports are desired for. After the dates are selected, click on the "Print" button to display the window prompt for "Setup/Preview/Print/Cancel".

Select Preview or Print to view the information on the report.

The order summary report will display and print reports that include all totalized information regarding the individual lifts within an order. Information such as machine number, material, inventory coil, product code and customer name are included for each reported order. See the following example.

```
XYZ Metals                              Summary of Completed Orders

Order 003009-R2                                          Work Order
Date 03/19/2001      Shift   1
Machine   1
Material GLV-8.0-14                   Pcode S0015        Customer Smith Warehouses
   Invcoil  5894-0932
   Name     Petros DeRock

Bundle    Qty       Length   Pattern/Opt.       Good            Scrap         Reclaimed
   1      177      176.000"    5 R          2596.000'         -0.083'          0.000'


Date 03/16/2001      Shift   1
Machine   1
Material GLV-8.0-14                   Pcode S0015        Customer Smitty's Framing
   Invcoil  5894-0932
   Name     Petros DeRock

Bundle    Qty       Length   Pattern/Opt.       Good            Scrap         Reclaimed
   1      299      120.000"    0 R          2990.000'          0.083'          0.000'
   1       20      145.000"    0 R           241.667'          0.000'          0.000'


Date 03/19/2001      Shift   1
Machine   1
Material GLV-8.0-14                   Pcode S0015        Customer Smitty's Framing
   Invcoil  5894-0932
   Name     Petros DeRock

Bundle    Qty       Length   Pattern/Opt.       Good            Scrap         Reclaimed
   1        1      120.000"    0 R            10.000'         22.167'          0.000'
   1      121      176.000"    5 R          1774.667'         14.667'          0.000'
   1      230      198.000"    4 R          3795.000'          0.083'          0.000'
```

With the order specific information is the detailed information for each programmed lift in the cutlist. This includes the Bundle number, quantity programmed, length, and pattern for each lift. The good footage, scrap footage, and reclaimed footage is also shown per lift item.

Parts or Punches

Selecting "Parts or Punches" from the "Reports" menu will provide screen or printed reports that will detail each part number and associated punch pattern. A report may be generated for a specific part or a selected number of parts.

Once the desired part number(s) have been selected, click on the "Print" command button to view the printing options.

The following example shows the Part/Macro Punch pattern report. For each part number, the length (if used), options, import date, and permanent/temporary selection is included in the report.

If the "Print Punches" option is checked on the selection screen (shown above), the full punch pattern will also be shown as displayed in the following example. If the option is not checked, the actual punch locations will not be displayed or printed.

Part Num	Cee-Alpha			
Length in	0.000"			
Option	R			
Import Date	03/05/2001			
Permanent	No	**Tool\Macro***	**Length in**	**Reference**
		1	48.000"	Lead Edge
		1	0.000"	Lead Center
		1	48.000"	Trail Edge
		10	10.000"	Lead Edge
		{Star-Mac}	6.000"	Lead Edge
		{Star-Mac}	6.000"	Trail Edge

Macro	Star-Mac			
Length in	0.000"			
Option	R			
Import Date	03/05/2001			
Permanent	No	**Tool**	**Length in**	**Reference**
		1	2.000"	Lead Edge
		1	2.000"	Trail Edge
		2	0.000"	Lead Edge

Part Num	Zee-Beta			
Length in	0.000"			
Option	R			
Import Date	03/05/2001			
Permanent	No	**Tool\Macro***	**Length in**	**Reference**
		1	6.000"	Lead Edge
		1	6.000"	Trail Edge
		10	8.000"	Lead Edge
		2	12.000"	Lead Center
		2	12.000"	Trail Center

The punch tool (Tool\Macro*), programmed punch location (length in), and punch reference is listed for each punch operation. All punch operations programmed for the particular part number will be shown in their programmed sequence.

Patterns or Operations

It is possible to view the actual patterns as they are listed at the XL controllers. The "Patterns or Operations" report allows the user to view or print this information. Patterns are generated when a Part number is assigned a three-digit number known as a pattern number. This number is downloaded to the controller and contains all punching operations for parts that will be produced.

Select "Patterns or Operations" from the "Reports" drop down menu. The following screen will be displayed.

Select the pattern(s) to be reported. The "Print Operations" checkbox will determine whether only the title and status of the pattern will be included on the report or if all punch operations for each pattern will also appear on the report.

```
XYZ Metals                          Pattern Operations

  Machine     Stud Line #002
_____

Pattern     1       Action    Add           Completed    Yes         Permanent     No

            Tool                  Offset                  Reference
              1                   12.000"                 Lead Edge
              1                   48.000"                 Even Space
              1                   11.000"                 Space Limit
              2                   36.000"                 Lead Edge
              2                   48.000"                 Even Space
              2                   11.000"                 Space Limit
             10                   14.000"                 Lead Edge
Pattern     2       Action    Add           Completed    Yes         Permanent     No

            Tool                  Offset                  Reference
              1                   12.000"                 Lead Edge
              1                   24.000"                 Even Space
              1                   11.000"                 Lead Edge
             10                   14.000"                 Lead Edge
Pattern     3       Action    Add           Completed    Yes         Permanent     No

            Tool                  Offset                  Reference
              1                   12.000"                 Lead Edge
              1                   48.000"                 Even Space
              1                   11.000"                 Space Limit
              2                   36.000"                 Lead Edge
              2                   48.000"                 Even Space
              2                   11.000"                 Space Limit
             10                   14.000"                 Lead Edge
Pattern     4       Action    Add           Completed    Yes         Permanent     No

            Tool                  Offset                  Reference
              1                   12.000"                 Lead Edge
              1                   24.000"                 Even Space
              1                   11.000"                 Lead Edge
             10                   14.000"                 Lead Edge
```

In the example above, the "Print Operations" has been checked on the "Main Subject" window and all the print operations have been included in the report.

Items displayed and printed also include the pattern number, the last action to the pattern, if items using this pattern have been completed, and if the pattern is permanent or temporary. These reports are shown per machine. The example above shows patterns that are located on the "Stud Line #002".

Coil Inventory

Eclipse has a superior coil tracking system that available as an optional software module. This can be added to the original Eclipse installation or added later on as an upgrade. Detailed reports are available from this optional system. Select "Coil Inventory" from the "Reports" menu.

As discussed in the first part of this chapter, select the coil or coil group that will be reported on. Use the "**Sequence**" drop down list and the "**Filter**" on tabbed page to select the desired coils.

Check the "**Print All**" option box to print all of the filtered coils in the data table or "**Selected Coils**" to select only the coils that are highlighted on the data grid.

Click on "Print" to view the print selection window that allows the user to "print", "preview", or to "setup" the printer.

The drop-down list for "Reports" provides selections for "Portrait Format" and "Landscape Format".

The report displays coil information for each selected coil. As shown below, the Coil number (InvCoil), material, vendor, Description, Date in, Date out, starting footage, used footage, and remaining footage (Balance) is displayed for each coil. The status display includes "Inc" for incomplete and "Cmp" for complete.

XYZ Metals			Coil Inventory Report						
Invcoil	Material	Vendor	Description	Date In	Date Out	Start Ft	Used Ft	Balance	Statu
0921-3094	46-16-GRN-P		Premium Panel, green	03/05/2001	/ /	0.00	0.00	0.00	Inc
0983-0987	46-16-TAN-P		Premium Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
1123-0983	42-16-WHT		Econo-Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
1209-0921	46-16-TAN-P		Premium Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
2094-9824	42-16-WHT		Econo-Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
3456-0321	46-16-WHT-P		Premium Panel, white	03/05/2001	/ /	0.00	0.00	0.00	Inc
3902-0927	46-16-GRN-P		Premium Panel, green	03/05/2001	/ /	0.00	0.00	0.00	Inc
7778-5444	46-16-TAN-P		Premium Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
7898-0987	42-18-TAN		Econo-Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
8239-0932	46-16-BRN		Premium Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
8294-0928	42-18-TAN		Econo-Panel, tan	03/05/2001	/ /	0.00	0.00	0.00	Inc
9804-0932	46-16-WHT-P		Premium Panel, white	03/05/2001	/ /	0.00	0.00	0.00	Inc

Material Supply and Demand

Eclipse reports coil inventory supplies as compared to production requirements. This information can be displayed in the "Material Supply and Demand" report.

Select the "Material Supply and Demand" selection from the "Reports" menu. The "Main Subject" screen for orders will be displayed. Select the order or group of orders that is to be reported.

Once again, supply and demand information on either all or part of the data table can be viewed and printed depending on whether "Print All" or "Selected Orders" is chosen. "Print All" will print all filtered items on the data table. "Selected Orders" will print only information regarding items that are highlighted.

```
XYZ Metals                      Material Supply and Demand

Material                          Supply          Demand          Balance
_____

ROX-16-12                       33019.580'            0'        33019.580'

42-16-WHT                       86454.439'        44784'        41670.439'

42-18-TAN                       29369.700'        96613'       -67243.300'

46-16-GRN-P                            0'        30613'          -30613'

GLV-8.0-12                      40904.167'        72590'       -31685.833'

GLV-8.0-14                     118644.194'        47844'        70800.194'

ROX-14-12                       34425.893'        86750'       -52324.107'

ROX-18-10                       20649.733'         8335'        12314.733'

SPW-.375-10.5                      23892'         7024'           16868'
```

As the example shows, material that is available for use is listed on the report. The amount of available footage is shown in the "Supply" column; the amount of required footage to produce existing orders is located in the "Demand" column.

Finally, a "Balance" total is shown for each material. A positive number represents the amount of material you have in surplus of existing orders. A negative balance alerts that present inventory supplies are not sufficient to complete the scheduled production.

Coil Usage Summary

Need to generate a report on coils that have been used? Click on the "Coil Usage Summary" selection in the "Reports Menu". Within this selection are four separate report options that provide information such as "Material Summary" for used coils, "Scrap by Coil" and "Scrap summary" for scrap produced from used coils, and "Orders and Footage" for the coils used.

Production Dates

The title of the main subject screen is "Production Dates". The user selects the date range and shifts that are desired to be reported on. As the example below shows, only coils that were used during the workweek between March 14th and March 19th of 2001 are highlighted, therefore these will be the coils included in the reports.

Coils-Orders

A second tabbed page designated "Coils-Orders" has been added to the "Main Subject" and "Filter" pages. In this screen, the user can further break down the information that is to be reported. Thus far, coils have been selected by the dates that they were involved in production.

Coil Number ⬆	Order Number	Material	Prod. Code
0987-0987	003009-10	GLV-8.0-12	S0010
1123-0983	003009-R3	42-16-WHT	P1022
1123-0983	003016-P28	42-16-WHT	P1022
5648-0234	003009-01	GLV-8.0-14	S0015
5894-0932	003009-01	GLV-8.0-14	S0015
5894-0932	003009-02	GLV-8.0-14	S0015
5894-0932	003009-R2	GLV-8.0-14	S0015
5894-0932	003012-20	GLV-8.0-12	S0010

Number of Coil-Orders Displayed: 8

Filter: NO FILTER   Report: SCRAP BY COIL

Locate Date   Locate Coil   Search   ⊙ Print All   ○ Selected Coils   Print   Close

Using the "Filter" page, the coils that will actually be reported can be grouped by specific attributes. By setting the filters, these specified coils will be displayed on the data grid on the "Coils-Orders" screen and included in the reports.

In the lower right-hand corner of the screen is the "Report" selection drop down list. This is where the user will select the specific report that is desired. The example shows "Scrap By Coil" as the selection.

"Scrap by Coil" Report

```
XYZ Metals                            COIL SCRAP BREAKDOWN


                          SCRAP                                                                % TOTAL
         SCRAP GROUP      CODE   SCRAP REASON                  SCRAP    SCRAP WEIGHT LB   COST   SCRAP

  COIL NUMBER:    0987-0987
                           0 Unknown                        17.083'            8.20     1.72  100.0(
                                    GROUP TOTAL             17.083'            8.20     1.72  100.00
                                NON-EXEMPT TOTAL            17.083'            8.20     1.72  100.00
                                    COIL TOTALS             17.083'            8.20     1.72  100.00


  COIL NUMBER:    1123-0983
                           0 Unknown                        85.167'           95.39     0.00   58.1(
                           5 Material Jam                   20.417'           22.87     0.00   13.9
                           4 Post-Production Damage         40.833'           45.73     0.00   27.8
                                    GROUP TOTAL            146.417'          163.99     0.00  100.00
                                NON-EXEMPT TOTAL           146.417'          163.99     0.00  100.00
                                    COIL TOTALS            146.417'          163.99     0.00  100.00


  COIL NUMBER:    5648-0234
                           0 Unknown                       201.250'           86.54    14.71  100.0(
                                    GROUP TOTAL            201.250'           86.54    14.71  100.00
                                NON-EXEMPT TOTAL           201.250'           86.54    14.71  100.00
                                    COIL TOTALS            201.250'           86.54    14.71  100.00


  COIL NUMBER:    5894-0932
                           0 Unknown                        69.417'           33.32     0.00   10.7
                                    GROUP TOTAL             69.417'           33.32     0.00   10.78
  Faulty Coils             2 Bad Paint                     574.000'          246.82     0.00   89.2
                                    GROUP TOTAL            574.000'          246.82     0.00   89.21
                                NON-EXEMPT TOTAL           643.417'          276.67     0.00  100.00
                                    COIL TOTALS            643.417'          276.67     0.00  100.00
```

In this report, each coil that was used during the dates set in the "Main Subject" screen and that qualified by the "Filters" set in the Filters screen will be displayed.

Scrap Reasons are included in the report for each coil. If more than one reason occurred, then multiple reasons will be listed.

Each scrap reason includes the amount of footage that was involved, the weight of material that was scrapped, and the cost of the material. The percentage of scrap is also assigned to each scrap reason on each coil.

The totals for each coil are then broken down to "exempt" scrap reasons and "non-exempt" scrap reasons. The total scrap per coil is displayed as well.

"All Scrap" Report

```
XYZ Metals                      OVERALL SCRAP BREAKDOWN REPORT

                          SCRAP                                          % TOTAL
        SCRAP GROUP        CODE    SCRAP REASON                SCRAP FT    SCRAP
                            0      Unknown                    372.9167    36.98
                            5      Material Jam                20.4167     2.02
                            4      Post-Production Damage       40.8333     4.05
                                   GROUP TOTAL                 434.1667    43.06
        Faulty Coils        2      Bad Paint                   574.0000    56.93
                            NON-EXEMPT TOTAL                  1008.1667   100.00

                            TOTAL SCRAP FOR MONTH             1008.1667   100.00
```

The "All Scrap" report gives a totalized breakdown of each of the scrap reasons that occurred during the given date range and matched the filter criteria.

Each scrap reason is listed with its "Scrap Code", scrap footage for the specific scrap reason, and the percentage of total scrap by reason.

Multiple scrap groups can be programmed for different types of machines. The above example shows two different groups being displayed. The two of these are added up to display the total for all scrap.

"Material Summary" Report.

```
XYZ Metals                          MATERIAL USAGE REPORT

    MONTH           MATERIAL                                  GOOD        SCRAP         TOTAL    %SCRAP

March,2001          42-16-WHT                   Length Ft  35732.0000    146.4167    35878.4167     0.40
                                                Weight Lb     40,019         163        40,183

                    GLV-8.0-12                  Length Ft   9482.0000     17.1667     9499.1667     0.18
                                                Weight Lb      4,551           8         4,559

                    GLV-8.0-14                  Length Ft  40473.3333    844.5833    41317.9167     2.04
                                                Weight Lb     17,403         363        17,766


                                    Length Ft for month    85687.3333   1008.1667    86695.5000     1.16
                                    Weight Lb for month       36,845         433        37,279
```

The "Material Summary" report displays all the material types that were used in the selected date range and that matched the filter criteria.

Each material type is shown with the total "good" footage ran, total "scrap" footage ran, and the overall footage. This will include material ran on all coils and on all selected machines.

A monthly footage total and weight total (in pounds) is also shown for all material types combined, including a breakdown of good, scrap and overall material footage.

A scrap percentage display is shown for each material to show how much material was scrapped for a given material type. This is the scrap as a percentage of the total footage.

"Orders and Footage" Report

```
XYZ Metals                        COIL SUMMARY AS OF 04/03/2001

 USED ON ORDER:           MATERIAL:           DATE USED    GOOD FT    SCRAP FT    TOTAL FT
COIL NUMBER:   0987-0987

003009-10                GLV-8.0-12          03/15/2001   6472.0000   17.0833    6489.0833

                                             TOTALS       6472.0000   17.0833    6489.0833
-----------------------------------------------------------------------------------------------
COIL NUMBER:   1123-0983

003009-R3                42-16-WHT           03/15/2001   4363.6667    0.0000    4363.6667
003009-R3                42-16-WHT           03/16/2001  14926.2500   92.1667   15018.4167
003016-P28               42-16-WHT           03/19/2001  16442.0833   54.2500   16496.3333

                                             TOTALS      35732.0000  146.4167   35878.4167
-----------------------------------------------------------------------------------------------
COIL NUMBER:   5648-0234

003009-01                GLV-8.0-14          03/15/2001  16760.0000  201.2500   16961.2500

                                             TOTALS      16760.0000  201.2500   16961.2500
-----------------------------------------------------------------------------------------------
COIL NUMBER:   5894-0932

003009-01                GLV-8.0-14          03/15/2001    840.0000    0.0000     840.0000
003009-02                GLV-8.0-14          03/15/2001   4974.1667  561.2500    5535.4167
003009-02                GLV-8.0-14          03/16/2001   6462.5000   37.1667    6499.6667
003009-R2                GLV-8.0-14          03/16/2001   3231.6667    0.0833    3231.7500
003009-R2                GLV-8.0-14          03/19/2001   8205.0000   44.8333    8249.8333
003012-20                GLV-8.0-12          03/19/2001   3010.0000    0.0833    3010.0833

                                             TOTALS      26723.3333  643.4167   27366.7500
-----------------------------------------------------------------------------------------------
```

The "Orders and Footage" report displays the totalized information for coils in related orders that were processed on those coils.

Each coil is shown with a list of all orders that were processed using that specific coil. The material and date the coils were used is included with each order that was processed.

As with the other coil reports, totals for the "good", "bad", and "total" footage are given for each order processed under a given coil number.

A total for each coil is displayed, but a grand total is not displayed in this particular report.

Production Errors

The "Production Error" report will show when an error in the production process has occurred. It will record the nature of the error and include details.

Upon selecting the "Production Error" report, a window will prompt the user to "preview", "print", or "cancel".

Upon printing or previewing, a report will be generated.

```
XYZ Metals                          List of Production Errors

Date        Time      Error         Description

04/04/2001 11:37:36   OVERPRODUCED   003012-20              GLV-8.0-12
```

The above example shows a report with only a single production error listed. As displayed, the date and time is recorded when the error occurred.

The Error on our example is an "OVERPRODUCED" error. The "Description" field contains the order number that the error was incurred on. The specific material that was affected is also displayed.

Production Records

The "Production Record" report provides detailed information on every occurrence at each machine. Included are items such as pressing the run button, incrementing a part, or doing a manual shear.

Select "Production Records" from the Reports menu. The "Main Subject" screen will be the first tabbed page. Notice that this report uses 4 tabbed pages to set up what needs to be reported and to be able to export the information to other files.

Select the Dates and the shift(s) that will be reported on. This information can be further broken down by selecting specific machines on the "Machines" tabbed page and by filtering attributes on the "Filter" tabbed page.

Export

The "Machines" and "Filter" pages were reviewed in the first part of this chapter. The "Export" tabbed page is only used in the "Production Report". This is because the production report contains all of the "raw" data that drive all other reports.

With the ability to export this raw data, the user may create customized reports or supplement databases with production information.

To export a file, the user must first select what type of file needs to be created to work with the users' database and reporting system.

Export File Type:

This drop down list provides the available formats that an export file can be created in. The example below shows that the report will be created in a Microsoft Excel format, version 5.0. Other files that can be created are:

- Microsoft Excel 2.0, 3.0,and 4.0 (XLS)
- FoxPro 2.X (DBF)
- Visual FoxPro 3.0, 5.0, and 6.O (DBF)
- Comma Delimited text (ASC).

Export to File:

This enables the user to select where the file will be transferred upon being created. The example shows the user saving the selected file in a file called "Production-March2001" under a file folder called "Production-Archive". Once created, these files can be moved, used for custom report information, archived, or deleted.

"Create Export" command button:

Once the file type and file location is determined, clicking the "Create Export" command button will create the new production information file and place it in the directed folder location.

"Production Records" Report

Each report will be classified by machine and will display the history file name that consists of the date and shift for the report. In the example, the file is shown to be "C:ECLIPSE\history\W0315011.DBF" This means that the file was created on 03-15-01 and pertains to shift #1.

As mentioned previously, this report contains the "raw" data that constitutes all other reports. Each column of information has a title and most are self-explanatory as to their purpose. Even so, each column in this report will be explained.

Type	This field reports the "type" of record that is included in this specific line. In the example an "S" is the first record type. This indicates that the record is a "shift start" record.
R	(Reason) This field displays the reason for the record. The second line on this reports shows an "M" under the Reason "R" column. An "M" appears here when

the field type is a "1", it means that a manual shear was performed.

Date   Displays the date that this specific item occurred on.

```
XYZ Metals                              Production Records

TYPE/   DATE      TIME     ORDER       MATERIAL    BNDL QTY   PATT.    LENGTH    INV. COIL  INCHES    EMPL SCR DEL DOWN
  R                                                           /OPT.              NUMBER               ID   CD  CD  TIME

  Data for file:    C:\ECLIPSE\history\W0315011.DBF

  Panel Line # 101   [  5]
  S R 03/15/2001 6:00:00                             0          0      0.000"                            0   0 0    0.00
  1 M 03/15/2001 9:57:13 003009-R3   42-16-WHT       1          0 R  268.000"               6723         0   0 0    0.00
  7     03/15/2001 9:57:36 003009-R3   42-16-WHT       1          0      0.000"                          134   0 2  237.6(
  3     03/15/2001 9:57:38 003009-R3   42-16-WHT       1          0      0.000"                          134   0 0    0.0:
  1 H 03/15/200110:24:12 003009-R3   42-16-WHT       1   223    0 R  268.000"              59763        134   0 0   26.5'
  1 M 03/15/200110:29:10 003009-R3   42-16-WHT       1          0 R  268.000"              11115        134   0 0    0.00
  7     03/15/200110:47:54 003009-R3   42-16-WHT       1          0      0.000"                          134   0 4   23.70
  3     03/15/200110:47:54 003009-R3   42-16-WHT       1          0      0.000"                          134   0 0    0.00
  1 H 03/15/200111:10:55 003009-R3   42-16-WHT       1   205    0 R  268.000"              54939        134   0 0   23.0:
  1 M 03/15/200111:11:08 003009-R3   42-16-WHT       1          0 R  268.000"                431        134   0 0    0.00
  7     03/15/200111:11:20 003009-R3   42-16-WHT       1          0      0.000"                          134   0 7    0.4:
  3     03/15/200111:11:37 003009-R3   42-16-WHT       1          0      0.000"                          134   0 0    0.2:
  1 H 03/15/200111:21:37 003009-R3   42-16-WHT       1    79    0 R  268.000"              21172        134   0 0   10.00
  2 L 03/15/200111:22:21 003009-R3   42-16-WHT       0          0      0.000" 1123-0983                 134   0 0    0.00
  3     03/15/200111:22:30 003009-R3   42-16-WHT       1          0      0.000"                          134   0 0    0.8:
  1 B 03/15/200111:32:46 003009-R3   42-16-WHT       1    93    0 R  268.000" 1123-0983    24924        134   0 0   10.2'
  E R 03/15/200113:59:59 003009-R3   42-16-WHT       2          0 R  245.000" 1123-0983                 134   0 0  147.2:

  Stud Line #001   [  1]
  S R 03/15/2001 6:00:00                             0          0      0.000"                            0   0 0    0.00
  4     03/15/2001 8:42:14                             0          0      0.000"                          175   0 0    0.00
  7     03/15/2001 8:50:52 003009-01   GLV-8.0-14      1          0      0.000"                          175   0 13  170.8'
  3     03/15/2001 8:50:55 003009-01   GLV-8.0-14      1          0      0.000"                          175   0 0    0.0:
  1 P 03/15/2001 9:03:13 003009-01   GLV-8.0-14      1          1 R  168.000" 5648-0234     375        175   0 0   12.3(
  4     03/15/2001 9:03:53                             0          0      0.000"                          175   0 0    0.00
  1 M 03/15/2001 9:04:48 003009-01   GLV-8.0-14      1          1 R  168.000" 5648-0234     474        175   0 0    0.00
  1 M 03/15/2001 9:04:49 003009-01   GLV-8.0-14      1          1 R  168.000" 5648-0234                 175   0 0    0.00
  7     03/15/2001 9:05:24 003009-01   GLV-8.0-14      1          0      0.000"                          175   0 11   2.1:
  3     03/15/2001 9:05:28 003009-01   GLV-8.0-14      1          0      0.000"                          175   0 0    0.0'
  1 B 03/15/2001 9:12:36 003009-01   GLV-8.0-14      1    20    1 R  168.000" 5648-0234    3456        175   0 0    7.1:
  1 M 03/15/2001 9:15:53 003009-01   GLV-8.0-14      1          1 R  168.000" 5648-0234    1374        175   0 0    0.00
```

Time   Displays the exact time of the occurrence as recorded by the XL controller containing the information.

Order   This is the order pertaining to the specific event.

Material   Displays that material that was being used during the recorded event.

BNDL Qty   (Bundle Quantity) This shows the bundle quantity that has been setup for this job.

Pattern   Displays the pattern number being used when the event occurred.

Opt   (Option) This shows the selected option on the XL controller at the time the event occurred. The option

means that the controller was making left hand, right hand, alternating or mirrored parts at the time.

Length	The length of the part being processed when the event occurred.
Inv. Coil Number	Displays the coil that being ran when the event occurred. This is shown as the "inventory coil number" that was assigned to it.
Inches	This field displays how much material has been cut off since the last record that contained an "inches" record. This number may include several parts and is updated after the line is halted or during a manual shear function.
Empl ID	(Employee ID) Displays the employee responsible for the machine during this e vent. It is displayed at the employee identification number.
Scr CD	(Scrap Code) When scrap occurs, this field will contain a number other than "0". It will reflect the amount of material that was counted as scrap.
Del CD	(Delay Code) If more time expires than is permitted between run times, a prompt for a delay code is given to the operator. This field contains the delay code number as entered by the operator.
Down time	Displays the elapsed time between run times. This is the period of time during when no production occurred according to the XL controller.

Changed Production Records

This report will show production records that have been manually edited due to misreporting or errant inputs. As with most other reports, only production records that fit the date and filter selections will be displayed.

The report will display the changed production record as it is now and as it was before it was edited.

"Production Summary" Report

The "Production Summary" report displays a brief totalized report on the amount of material produced per machine and the actual run time of each controller.

As in most Eclipse reports, the user must first select the date range and shift(s) that is required for the report. The example shows a date range of 3-01-2001 to 3-19-2001.

As the example shows above, the "Machine Group" and "Product Code" filters have been selected. This will cause the report to contain only those items that are included in the selected machine groups and included in the selected product code fields.

```
XYZ Metals                              PRODUCTION SUMMARY

                                                %           Total  Coil    Shift   Run    Run    Run
Date     Shift              Good         Scrap  Scrap  Reclaimed  Cuts  Changes  HH:MM   HH:MM  %      Fpm

Stud Line #001    [  1]
03/15/2001  1    Length   20831.667'  1614.667'   7.19    0.000'  1622     1     7:59    2:35   32.29   1

Date Totals      Length   20831.667'  1614.667'   7.19    0.000'  1622     1     7:59    2:35   32.29   1

03/16/2001  1    Length    9694.167'  -107.250'  -1.11    0.000'   744     0     5:01    2:33   50.74   '

Date Totals      Length    9694.167'  -107.250'  -1.11    0.000'   744     0     5:01    2:33   50.74   '

03/19/2001  1    Length    8175.667'    36.833'   0.44    0.000'   532     0     7:59    2:35   32.29   .

Date Totals      Length    8175.667'    36.833'   0.44    0.000'   532     0     7:59    2:35   32.29   .

Machine Totals   Length   38701.500'  1544.250'   3.83    0.000'  2898     1    21:01    7:43   36.70   :


Stud Line #002    [  2]
03/15/2001  1    Length   25176.000'    17.083'   0.06    0.000'  2405     0     6:41    3:03   45.53   1

Date Totals      Length   25176.000'    17.083'   0.06    0.000'  2405     0     6:41    3:03   45.53   1

03/16/2001  1    Length    8946.000'   103.333'   1.14    0.000'  1014     0     5:25    2:56   54.07   .

Date Totals      Length    8946.000'   103.333'   1.14    0.000'  1014     0     5:25    2:56   54.07   .

03/19/2001  1    Length   12168.000'    41.083'   0.33    0.000'  1017     0     7:59    3:46   47.08   .

Date Totals      Length   12168.000'    41.083'   0.33    0.000'  1017     0     7:59    3:46   47.08   .

Machine Totals   Length   46290.000'   161.500'   0.34    0.000'  4436     0    20:07    9:45   48.45   '
```

Each machine is listed on the report individually and shows a total produced length for each day of production.

Totals for "Good" footage and for "Bad" footage produced are given for each reported day. A scrap percentage (% Scrap) is displayed. This is the percentage of material that was scrapped for during the day's production. A column for "reclaimed" material is also included. This consists of orders that generated scrap material, but were able to put the scrap material to use by performing manual functions.

The total number of cuts and total number of coils used for specific days are recorded in the respective columns.

The length of the shift is displayed with the amount of run time within the shift. This is also shown as a percentage in the "Run %" column. The average speed in FPM (Feet Per Minute) is also displayed.

"Downtime" Reports

Eclipse has several types of reports to totalize and display downtime for each machine or group of machines. These reports can display the reason for the downtime, the amount of time that was lost, and many other items.

As is typical, the user is to select the date(s) and the shift(s) that need to be reported on. Once the dates and shifts are selected, the "Machine" tabbed page and the "Filters" tabbed page can be edited to narrow down the scope of what the user wants to report on.

Many reports have multiple reports that can be generated, but the downtime report has an entire tabbed page used to customize how the report will appear. This feature will need to be discussed before creating the report.

Reports

The Reports tabbed page has two separate tabbed pages of settings that are used to customize the appearance and order of the reports.

Look at the first tabbed page.

Reports (4)

Page1 (5)		Page2 (6)

☑ Delays by Machine	☐ Delays by Shift	☐ Delays by Operator
☐ All Machines	☑ All Shifts	☑ All Machines by Oper
☐ All Machines by Shift	☑ All Machines by Shift	☐ All Machines by Shift
☐ All Shifts by Machine	☑ All Shifts by Machine	☐ All Shifts by Machine
☑ By Shift and Machine	☑ By Shift and Machine	☐ By Shift and Machine

☐ Delays by Mach Group	☐ Delays by Date	☐ Delays by Material
☑ All Machines by Group	☑ All Machines by Date	☑ All Machines by Material
☑ All Machines by Shift	☑ All Machines by Shift	☑ All Machines by Shift
☑ All Shifts by Machine	☑ All Shifts by Machine	☑ All Shifts by Machine
☑ By Shift and Machine	☑ By Shift and Machine	☑ By Shift and Machine

Filter: NO FILTER   Sequence: [DESCRIPTION ▾]

Settings: [Save]   Type: [REASONS ▾]

[Locate Date]   ⦿ Print All   ○ Selected   [Print]   [Close]

Note that more than one report can be created simultaneously. On this page, pressing the "Print" command button can generate six different styles of reports. On the above example, only the "Delays by machine" report set is selected to be printed with a single report subject set to be printed. All the report styles can be enabled. There are as many as four reports for each style.

If all checkboxes were checked on this page, 24 independent reports would be produced.

AMS CONTROLS

Page1 (5)	Page2 (6)
☐ Delays by Gauge	☐ Delays by Gauge, Width & Prod. Code
☑ All Machines by Gauge	☑ All Machines by Gauge, etc.
☑ All Machines by Shift	☑ All Machines by Shift
☑ All Shifts by Machine	☑ All Shifts by Machine
☑ By Shift and Machine	☑ By Shift and Machine
☐ Delays by Gauge & Width	
☑ All Machines by Gauge & Width	
☑ All Machines by Shift	
☑ All Shifts by Machine	
☑ By Shift and Machine	

Filter: NO FILTER   Sequence: DESCRIPTION

Settings: Save   Type: REASONS

Locate Date   ⊙ Print All   ○ Selected   Print   Close

The second tabbed page under "Reports" is a continuation of the first page. Three more report styles are located on this page, each with four possible reports that can be generated.

Additional Controls

The downtime report screen has additional commands that are not found on most other report screens. These are:

"Settings: (Save)" Command Button

This button can save all the settings for the current report to be used as "standard" or "saved" reports. Click on the "save" command button and the following prompt will be displayed.
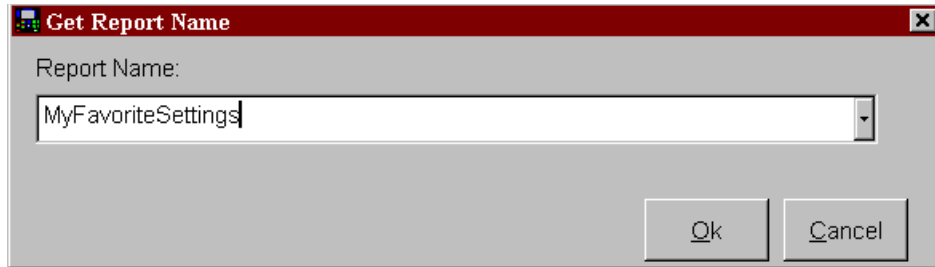
Give the report scheme a name and type it into the text field. This particular set of filters and report setup criteria can then be used at a later time in the print standard reports selection.

"Sequence" Drop-Down List

The "Sequence" list shows the three methods for displaying the reports.
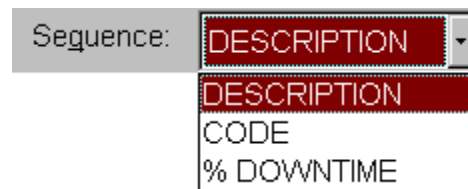
Description	…sequence will list the downtime items in order of the problem description. For instance, a downtime reason for "Loading Coil" would be listed before "Mechanical Maintenance" because the "L" in Loading would before the "M" in Mechanical.
Code	…sequence will display the downtime reasons by the code number of the delay code.
% Downtime	…sequence will show the delay order of which caused the most delay time, starting with the highest amount of delay for a particular delay code.

"Type" of Report

The type of report can be selected. There are three different types of reports that can be generated.

Details   The "Details" report includes another options called "Longest unreported delay is". It is here that the user sets the limit on the shortest time allowed without being reported.

```
XYZ Metals                              Itemized Downtimes

Shift Date   03/15/2001    Shift  1                                Continued

        Machine    Stud Line #002   [  2]

   Start      Stop     Delay Code   Delay Reason              Duration    % Total   Employee ID
  06:00:00   8:54:18      13        Scheduled Downtime         174.30    58.62 %        110
  08:54:18   8:54:21       0        Short Stops                  0.05     0.01 %        110
  09:05:40   9:08:46      11        Electrical Maintenence       3.10     1.04 %        110
  09:08:46   9:08:47       0        Short Stops                  0.01     0.00 %        110
  10:04:01  10:18:51       8        Material Jam                14.83     4.98 %        110
  10:18:51  10:19:15       0        Short Stops                  0.40     0.13 %        110
  10:22:31  10:48:11       0        Short Stops                 25.66     8.63 %          0
  11:11:33  11:11:34       0        Short Stops                  0.02     0.00 %          0
  11:21:37  11:22:31       0        Short Stops                  0.90     0.30 %          0
  12:41:55  13:59:59       0                                    78.06    26.25 %          0

                                                Machine Total   297.33

                                                  Shift Total  1032.53
```

Reasons   This downtime report is detailed and shows as summary for each delay reason. Note that the report includes the amount of time incurred by each reason and what percentage of time expended as compared to overall production time and down time.

```
XYZ Metals                          Summary of Downtime by Reason
                           Dates Between 03/01/2001  and 03/19/2001

                Machine: Stud Line #001   [  1]                              Shift: 1

                                              % Down    % Total    Ave.Time
      Code    Delay Reason          Minutes    Time      Time    per Occur  Occurences
                                    1919.92   66.28 %   57.14 %    479.98         4
              0                      441.67   15.24 %   13.14 %    147.22         3
                    NOT ASSIGNED Total  2361.59   81.53 %   70.28 %    337.37         7
      11      Electrical Maintenen      2.18    0.07 %    0.06 %      2.18         1
      13      Scheduled Downtime      170.87    5.89 %    5.08 %    170.87         1
                 Maintenance Delays Total   173.05    5.97 %    5.15 %     86.52         2
              Short Stops             12.26    0.42 %    0.36 %      0.81        15
                    Short Stops Total    12.26    0.42 %    0.36 %      0.81        15
                    Non-Exempt Total   185.31    6.39 %    5.51 %     10.90        17
      4       Personal Break           2.95    0.10 %    0.08 %      2.95         1
                 Personnel Delays Total     2.95    0.10 %    0.08 %      2.95         1
      1       Shift Change            346.73   11.97 %   10.31 %    115.57         3
            Standard Production Delays Total   346.73   11.97 %   10.31 %    115.57         3
              Run Time                463.28             13.78 %
                    Run Time Total    463.28             13.78 %

                    Total Downtime   2896.58             86.21 %    103.44        28
                    Total Time       3359.86
```
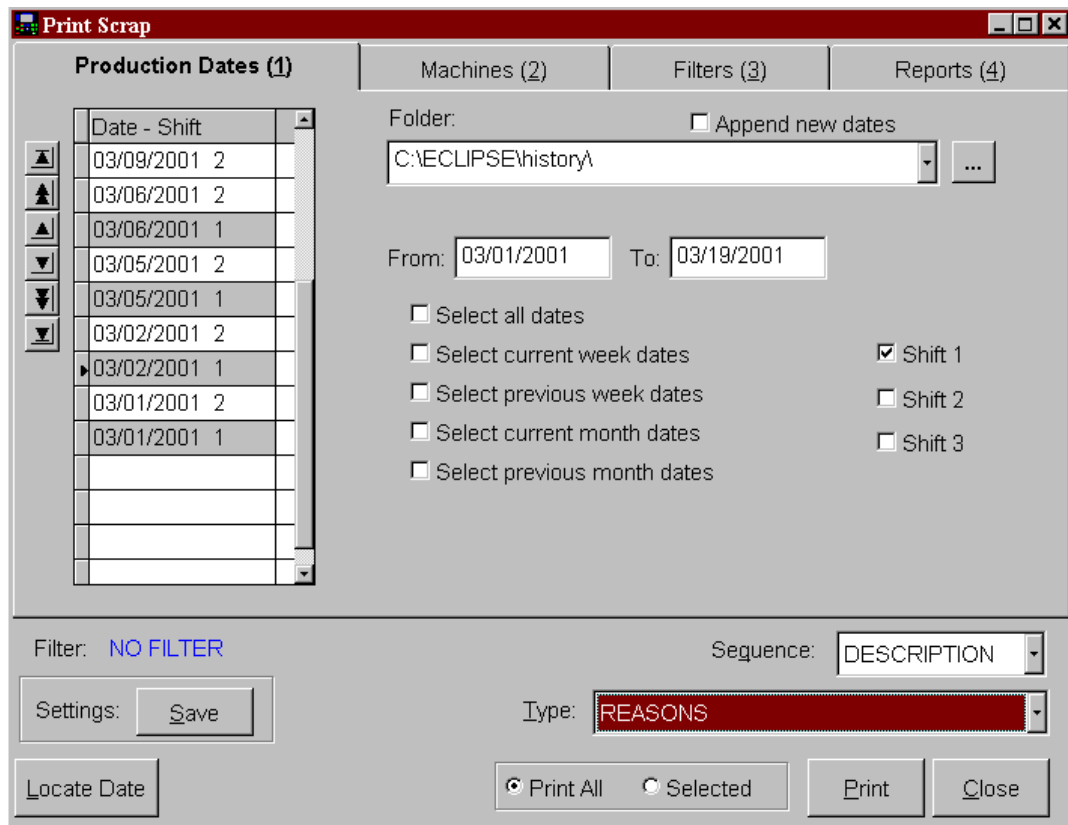
Groupings   In this type of report, the delays are summarized by the "delay groups". In this example you see that the delays are shown in three groups: "MD", "PD", and "SP".

```
XYZ Metals                          Summary of Downtime by Grouping
                           Dates Between 03/01/2001  and 03/19/2001

                Machine: Stud Line #001   [  1]                              Shift: 1

                                              % Down    % Total    Ave.Time
      Code    Delay Grouping        Minutes    Time      Time    per Occur  Occurences
              NOT ASSIGNED          2361.59   81.53 %   70.28 %    337.37         7
      MD      Maintenance Delays     173.05    5.97 %    5.15 %     86.52         2
              Short Stops            12.26    0.42 %    0.36 %      0.81        15
                    Non-Exempt Total   185.31    6.39 %    5.51 %     10.90        17
      PD      Personnel Delays         2.95    0.10 %    0.08 %      2.95         1
      SD      Standard Production    346.73   11.97 %   10.31 %    115.57         3
              Run Time               463.28             13.78 %

                    Total Downtime   2896.58             86.21 %    103.44        28
                    Total Time       3359.86
```

"Scrap" Reports

Eclipse has several types of reports to totalize and display scrap causes for each machine or group of machines. These reports can display the reason for the scrap, what material was wasted, and when the problem occurred among many other items.

The user to selects the date(s) and the shift(s) that needs to be reported. Once the dates and shifts are selected, the "Machine" tabbed page and the "Filters" tabbed page can be edited to narrow down the scope of what the user wants to report.

Many reports have multiple reports that can be generated, but the Scrap Reason report has an entire tabbed page used to customize how the report will appear. This feature will need to be discussed before creating the report.

Reports

The Reports tabbed page has two separate tabbed pages of settings that are used to customize the appearance and order of the reports.

Look at the first tabbed page.

Note that more than one report can be created simultaneously. On this page, pressing the "Print" command button can generate six different styles of reports. On the above example, only the "Scrap by machine" report set is selected to be printed with a single report subject set to be printed. All of the report styles can be enabled and have as many as four reports for each style.

If all checkboxes were checked on this page, 24 independent reports would be produced.

The second tabbed page under "Reports" is a continuation of the first page. Three more report styles are located on this page, each with four possible reports that can be generated.

Additional Controls

The Scrap Reason report screen has additional commands that are not found on most other report screens. These are:

"Settings: (Save)" Command Button

This button can save the numerous settings that are found on the "Filters" tabbed page. Simply select the desired filters and click on the "Save" command button. The following prompt will be displayed.
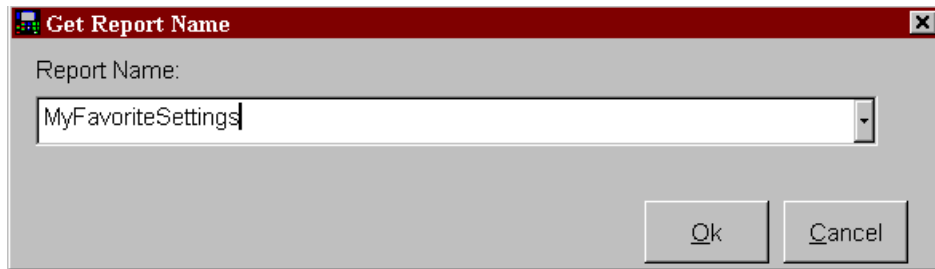
Give the filter scheme a name and type it into the text field. This particular set of filters can then be called for at a later time.

"Sequence" Drop-Down List

The "Sequence" list shows the three methods for displaying the reports.
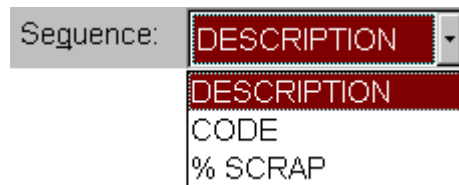
Description	…sequence will list the Scrap in order of the scrap reason. For instance, a scrap reason of "Bad Paint" would be listed before "Material Jam" because the "B" in BAD would before the "M" in Material.
Code	…sequence will display the scrap reasons by the scrap code number.
% Scrap	…sequence will show the scrap reasons in order of which caused the most scrap, starting with the highest amount of scrap.

"Type" of Report

The type of report that is created can be selected. There are three different types of reports that can be made.

Details The "Details" report provides an itemized list of all scrap occurrences and the detailed information regarding each occurrence including the scarp reason, time, etc.

```
XYZ Metals                              Itemized Scrap
_____

Shift Date    03/15/2001    Shift  1                              Continued


  Machine    Stud Line #001   [  1]

                                              Scrap              Scrap            Employee
    Start      Stop    Code    Scrap Reason    Length   % Total   Weight   % Total    ID
  08:50:55    9:03:13    0                      31.250'   0.14 %    161.25   1.78 %     17
  09:04:48    9:04:48    0                      39.500'   0.18 %    203.82   2.25 %     17
  09:05:28    9:12:36    0                       8.000'   0.03 %   1365.68  15.10 %     17
  09:15:53    9:15:53    0                     114.500'   0.54 %    590.82   6.53 %     17
  09:15:57   10:20:49    0                       8.000'   0.03 %  49640.06 548.86 %     17
  11:20:49   11:32:55    0                       0.083'   0.00 %  11541.63 127.61 %     17
                                Machine Total  201.333'           63503.26
```

Reasons This scrap report shows the scrap summarized in order of the causes of the scrap by the scrap reason.

```
XYZ Metals                         Summary of Scrap by Reason
                        Dates Between 03/01/2001  and 01/01/2080
_____
           Machine: All Machines                          Shift: All Shifts

                         Scrap    % Total    Scrap   % Total   Ave.Weight
  Code  Scrap Reason     Length   Length     Weight  Weight    per Occur Occurences
                         2011.50'  1.24 %    2017.20  1.89 %     49.20      41
                  Total  2011.50'  1.24 %    2017.20  1.89 %     49.20      41
   2    Bad Paint         583.42'  0.36 %     251.34  0.23 %     27.93       9
          Faulty Coils Total  583.42'  0.36 %  251.34  0.23 %   27.93       9

          Total Scrap   2594.92'  1.60 %    2268.54  2.13 %     45.37      50
          Net Scrap     2594.92'  1.60 %    2268.54  2.13 %     45.37      91
```

Groupings   In this type of report, scrap is displayed in scrap groups. In this example you see that the scrap shown is the "Faulty Coils" group, which consists of multiple scrap reasons that are related to damaged or low quality coils.

```
XYZ Metals                          Summary of Scrap by Grouping
                            Dates Between 03/01/2001  and 01/01/2080
─────────────────────────────────────────────────────────────────────────────
                   Machine: Stud Line #001   [  1]                       Shift: 1

                                 Scrap     % Total     Scrap    % Total   Ave.Weight
      Code  Scrap Grouping       Length    Length      Weight   Weight    per Occur Occurences
                                 95.83'    0.19 %      41.23    0.19 %      2.75      15
      2     Faulty Coils         46.25'    0.09 %      20.36    0.09 %      5.09       4

                    Total Scrap  142.08'   0.29 %      61.59    0.28 %      3.24      19
                    Net Scrap    142.08'   0.29 %      61.59    0.28 %      3.24      34
─────────────────────────────────────────────────────────────────────────────
```

"Saved Report Setups" Report

Users may save a setup criteria for downtime and s scrap reports. The "Saved Report Setups" report gives the user the ability to report any given report that has a saved set of criteria.

Select the "Saved Report setups" report from the "Reports" menu.

Select the date(s) and the shift(s) that apply to the desired report.

There is a new drop down list called "Report Name". This will display all predefined reports that were created in other report forms. Once a report name has been selected, clicking on the "Print" command button will generate the print menu. Selecting "Print" will create the report that is associated with the selected Report Name.

Reports

Selecting the "Reports" tabbed page provides a display of attributes included with each of the predefined report names. This screen is used for **views** which attributes have been saved. The attributes themselves are set when the report was saved in the original report screen (i.e.: downtime reports, scrap reports, etc.).

The example shows three predefined reports followed with their attributes list. The list of available reports can be further limited by setting the filters on the "Filters" tabbed page.

"Operator's Log" Report

The Operators Log gives detailed information regarding events that occurred on a given machine during the course of a shift, especially those related to how the machine was operated.

Select the date(s) and shift(s) information desired. Use the "Machines" and "Filters" tabbed pages to further qualify the required information by selecting the specific machines and attributes that the report should match.

Longest unreported delay is: " ??? " Minutes.

This is an additional control feature that enables the user to ignore any delays that are under this certain amount of time. This can be set from "0" to "99" minutes.

OPERATORS LOG

EVENT TIME	EVENT TYPE	DELAY REASON	DURATION	EMPLOYEE NUMBER	COIL NUMBER	ORDER NUMBER	FEET RUN	SCRAP
MACHINE	Panel Line # 101	[						
03/15/2001								
6:00:00	PRODUCTION		4:24:12				5540.50	560.16
10:24:12	START	Personal Break		134				
10:47:54	END DELAY	Personal Break	0:23:42	134				
10:47:54	PRODUCTION		0:23:01			003009-R3	5540.41	962.08
11:10:55	START	Bundling Product		134				
11:11:20	END DELAY	Bundling Product	0:00:25	134				
11:11:37	PRODUCTION		0:10:00			003009-R3	1764.33	
11:22:21	EVENT	COIL LOAD		134	1123-0983			
11:22:30	PRODUCTION		0:10:16		1123-0983	003009-R3	2077.00	
11:32:46	START	SHIFT END		134	1123-0983			
13:59:59	END DELAY	SHIFT END	2:27:12	134	1123-0983			
14:00:00	START	Material Jam		134	1123-0983			
15:13:34	EVENT	POWER ON						
15:41:56	END DELAY	Material Jam	1:41:54	134	1123-0983			
15:41:56	PRODUCTION		0:53:57		1123-0983	003009-R3	2286.66	
16:35:53	START	SHIFT END		134	1123-0983			
21:59:59	END DELAY	SHIFT END	5:24:06	134	1123-0983			
					TOTALS FOR 03/15/2001		17208.91	1522.25
03/16/2001								
6:00:00	PRODUCTION		3:15:24				3848.83	30.91
9:15:26	START	Material Jam		134				
9:19:13	END DELAY	Material Jam	0:03:47	134				
9:19:17	PRODUCTION		0:03:21			003009-R3	775.83	61.25
9:22:38	START	SHORT STOP		134				
9:34:02	END DELAY	SHORT STOP	0:11:24	134				
9:34:02	PRODUCTION		3:00:12			003009-R3	10393.75	
12:34:11	START	SHIFT END		134				
13:59:59	END DELAY	SHIFT END	1:25:48	134				
14:00:00	START	SHIFT END		134				
21:59:59	END DELAY	SHIFT END	8:00:00	134				
					TOTALS FOR 03/16/2001		15018.41	92.16

The report contains all main events that occurred at the machine and includes all items that caused the machine to either run or halt.

The report lists totalized information for each shift's footage and scrap. Also included in the report is an itemized list of all main events and their description, the exact time the event occurred, the amount of run time between halts, the employee number, the coil number, and the order number.

"Produced Goods" Report

The produced goods report shows each order completed during a shift and the related details for each order.

A single shift may be selected for reporting or multiple shifts over a group of days. Select the desired date(s) and shift(s) to be reported. Use the "Machines" and "Filters" tabbed pages to further tune the report to get the information that is needed.

The example above shows that only shift number one will be reported on between the dates of 3-01-2001 and 3-19-2001. Note that the respective dates are highlighted in the drop menu on the left of the screen. The Filter display shows that "No Filter" has been selected at this time.

Pressing the "Print" command button will cause the print popup menu to be displayed. From this window the user can either display the report on screen or print to a printer.

```
XYZ Metals                         PRODUCED GOODS REPORT              REPORT DATE    11/21/2001

                            SHIFT:  1    PRODUCTION DATE    03/15/2001

     MACHINE:    Panel Line # 101   [  5]


PCS.    PATTERN/OPTION                             GOOD LENGTH   SCRAP LENGTH    RECLAIMED    TOTAL LENGTH

   ORDER: 003009-R3                    PCODE: P1022     TYPE:         WORK ORDER:
MATERIAL: 42-16-WHT                  CUSTOMER:

 INVENTORY COIL:

   507 of     OR at  268.000  In.   (  22 FT-   4.000 Inch )    11323.00      1522.25          0.00      12845.25
                                     COIL TOTAL:               11323.00      1522.25          0.00      12845.25

 INVENTORY COIL:  1123-0983

    93 of     OR at  268.000  In.   (  22 FT-   4.000 Inch )     2077.00         0.00          0.00       2077.00
                                     COIL TOTAL:                2077.00         0.00          0.00       2077.00

                                     ORDER TOTAL:              13400.00      1522.25          0.00      14922.25
-------------------------------------------------------------------------------------------------------------


          TOTALS FOR:  Panel Line # 101   [  5]               13400.00      1522.25          0.00      14922.25
```

The Produced Goods report will display each order and its cutlist, along with itemized totals for good footage, scrap footage, reclaimed footage, and total length for each item. It also displays the same totals for the overall order.

These order reports are created for each machine on a per day basis. The example above shows the production for machine #1, 1st shift, for the date of 03-16-2001. Two orders were created on this day and shift.

A grand total for each of the footage columns is also included for the entire production of the day.

Quality Audit Results

The Quality Audit report is created in conjunction with information derived from customized menus. The information collected from the machine controller(s) is stored as data in Eclipse's history file.

```
XYZ Metals                              QUALITY AUDIT RESULTS              11/28/2001   Time: 08:12:36

            MACHINE:    [  1]

DATE     TIME    LIFT  AUDIT ITEM                         AUDIT VALUE    EMPLOYEE ID   NAME              INVENTORY COIL


  ORDER:                                                 WORK ORDER:
MATERIAL:
```

The report displays information that is broken down by individual orders. Each individual occurrence of quality assurance is associated with the current Lift, Order, Material, and the employee who entered the information. Two additional report headings describe the "Audit Item" and the "Audit Value".

|	
Audit Item	This is the actual Item label that the operator at the controller responds to. Each prompt at the controller contains a label and a respective ID number. The "Audit Item" should be clear enough so that the machine operator and pc user both understands its meaning and intent. These items are created and labeled in the "Custom Menus" window found under the "Controller" heading on the main toolbar.
Audit Value	This is the value that is selected or input by the operator when responding to the prompts of the custom menu on the controller.

Due to the potential size of the "Audit Item" field, the report is generated in the "landscape" format (wide page). The printer should be set accordingly when printing the report.

An additional page may be included with the report that lists the production dates that are included in the report initial pages.

```
XYZ Metals                          QUALITY AUDIT RESULTS            11/28/2001    Time: 09:01:57


   Report Criteria:


        Filter:  Production Dates = 11/21/2001  1:11/07/2001  1:11/20/2001  1:11/20/2001  2:11/20/2001
                 3:11/26/2001  1:
```

This will be printed along with the main body of the report if the "Print Report Criteria Page" checkbox is checked. If this box is not checked, the "Criteria" page(s) will not be printed with the report. This is true for all reports.
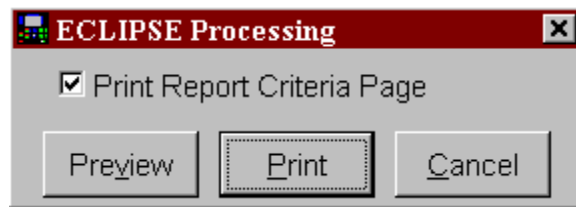
Comm Log

The Comm log provides a "recording" of all communications between Eclipse and the AMS controllers. Data sent from Eclipse and responses from the controller(s) are both included as well as a time and date stamp as to when the communication took place.

Date- Time	Output	Input
11/05/01 14:53:23 .710	13?	1311/05/0114:53:220$300000$$$$$$$98$1F
11/05/01 14:53:29 .220	13?	1311/05/0114:53:280$300000$$$$$$$98$1F
11/05/01 14:53:29 .790	13PL+	13C 00
11/05/01 14:53:29 .850	13pST 4	13 ****** 08
11/05/01 14:53:29 .910	13pC+ 4P	13011B8 4P1 0 10
11/05/01 14:53:29 .980	13pC+ 4P	13011B8 4P1 0 16
11/05/01 14:53:30 .040	13PL-	13C 11
11/05/01 14:53:32 .240	138C	13T
11/05/01 14:53:32 .280	1381testings	13T

Print Comm Log — Comm Log (1) | Filter (2)

Sequence: (3) □ Descending   Filter: MACHINE :
DATE - TIME

Number of Entries Displayed: 4417   ○ Print All   ● Selected Entries

Locate Date   Locate Hour   Print   Close

The information shown is described below

Print Comm Log Information

Date-Time	This is the actual date and time that the recorded communication took place
Output	This is the Communication string from the Eclipse program (via the pc comm. port)
Input	This is the response from the AMS controller.

This provides a great troubleshooting tool when determining if improper data is being sent or received.

Message Log

The message log lists and displays all messages generated by Eclipse-Comm. Such messages are displayed in the Eclipse-Comm "Error Window" or on the controllers display as a message box.

Print Message Log Column Information

|	
Date – Time	Displays the time that he error window (on Eclipse Comm) or the message box (on the AMS controller) was displayed.
Message	This field displays the actual message that was displayed.
Comm Group	The Comm. group displays which of the three possible communication links are being referred to.

This enables the user to determine if certain errors are being generated in excess and allows a troubleshooting method for tracking past errors.

Printer Setup

Eclipse provides a typical Windows printer setup screen. This can be used to setup whether reports will appear in portrait or landscape format, which printer will be used, paper size, etc.

Select the properties for your application. Eclipse reports are sized to fit onto an 8 X 11 ½, portrait style paper unless otherwise noted.
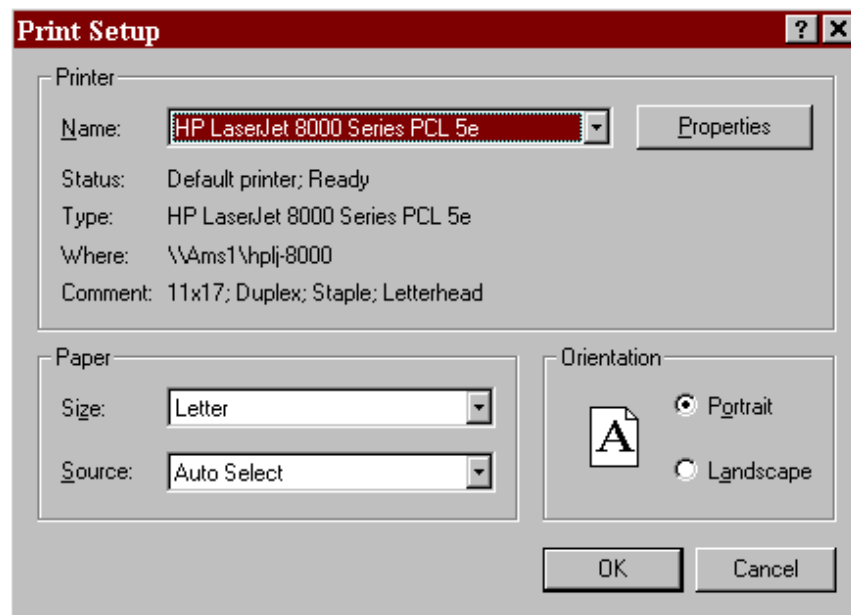
Inventory

An optional software module for "Coil Management" is offered to compliment the Eclipse software. Coils inventories and materials can be tracked from the delivery of coil stock and throughout the production process. Materials loaded on production lines can be double-checked to verify that the right stock is loaded, thereby eliminating errors and scrap.

Coil Inventory

The Eclipse coil inventory screen is used to maintain information about all coils currently in inventory. New coils can be entered manually or imported via file transfer. As coils are used at the machines, Eclipse-Comm automatically updates the length used and status information.

Select "Inventory" from the Status Screen tool list. "Coil Inventory" will drop down as the sole selection. Pressing "Ctrl-C" will also open this window.
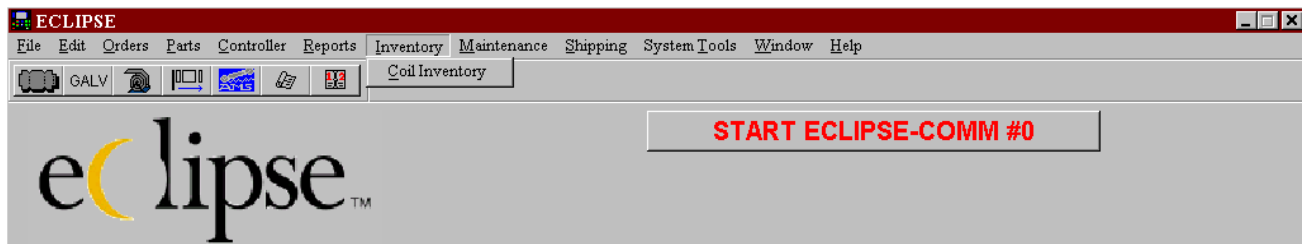
The following window opens, displaying current coils and their information. Since there is much information regarding each coil, you may be required to move the scroll bar left, right or up and down to locate the appropriate information.

Coil Number	Material	Description	Date In	Date Out	Est. Length Ft.	Length Used Ft.	Completed	Cost / Lb.
7778-5444	46-16-TAN-P	Premium Panel, tan	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
0983-0987	46-16-TAN-P	Premium Panel, tan	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
3902-0927	46-16-GRN-P	Premium Panel, green	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
7898-0987	42-18-TAN	Econo-Panel, tan	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
1209-0921	46-16-TAN-P	Premium Panel, tan	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
3456-0321	46-16-WHT-P	Premium Panel, white	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
9804-0932	46-16-WHT-P	Premium Panel, white	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
5894-0932	GLV-7.0-16-P	7 inch galvinized, Premiu	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
6352-0432	GLV-8.0-12	8 inch galvinized, Reside	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
6253-1625	GLV-7.0-16-R	7 inch galvinized, Repro	03/05/2001	/ /	0.0'	0.0'	☐	0.0000
7887-0975	GLV-7.0-16-R	7 inch galvinized, Repro	03/05/2001	/ /	0.0'	0.0'	☐	0.0000

Add **Delete** **Locate Coil** **Search**   **Save** **Revert** **Close**

Coil Verification Feature

A key advantage of using the "Coil Management" module in Eclipse is the coil verification feature. When this is enabled in the Settings screen (found in the Maintenance Menu), Eclipse-Comm will automatically double-check coils as they are loaded to ensure the material matches properly. If the operator loads a coil and its material code does not match that of the order, an error message will be sent to the XL controller. If the machine is running, it will halt. The operator then has the opportunity to correct the mistake.

Please note that it is still possible to simply start the machine after clearing the error message. This occurs in cases where the operator has the authority to substitute coils. For example, if the currently loaded material is 16-gauge steel, but there is a small order calling for 18-gauge, it may be desirable to leave the coil loaded and run the order with the heavier (and more expensive) steel. When coil error messages are overridden, it will be noted in the production error report.

ADD

To add new coils, simply click on the 'Add' button. If there are no other coils already defined, it will create a blank coil record. If a coil already exists, the software will ask if you want to base the new coil on the currently selected (highlighted) coil. If yes is picked, the material code, date, description, etc. will automatically be copied to the new coil. This will save entry time while loading in many similar coils.

Depending on how settings are adjusted in the "Maintenance\Settings" menu. You may also be able to simply arrow down to the next empty record and input the next coil.
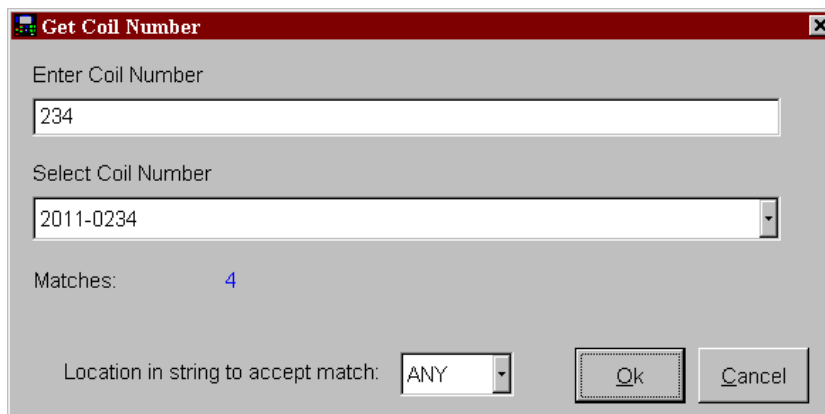
Delete

As coils are consumed, it is helpful to remove these coils from the inventory screen on a periodic basis. The simplest method to do this is to:

- Sort the coils by 'Date Out'.

- Select all but the most recently used coils. To select an entire group, click on the first coil, hold the shift key and click the last.

- Press the delete button.

Eclipse also has settings that will automatically delete completed coils after a specified elapsed time that is set in the Settings windows under the "Maintenance" menu list.

Locate Coil

Coils can be easily found by using the **"Locate Coil"** button. The Locate Coil button is used when all or part of the coil number is known. For example, you can search for all coil numbers that start with "234" or that contain "234" anywhere in them.
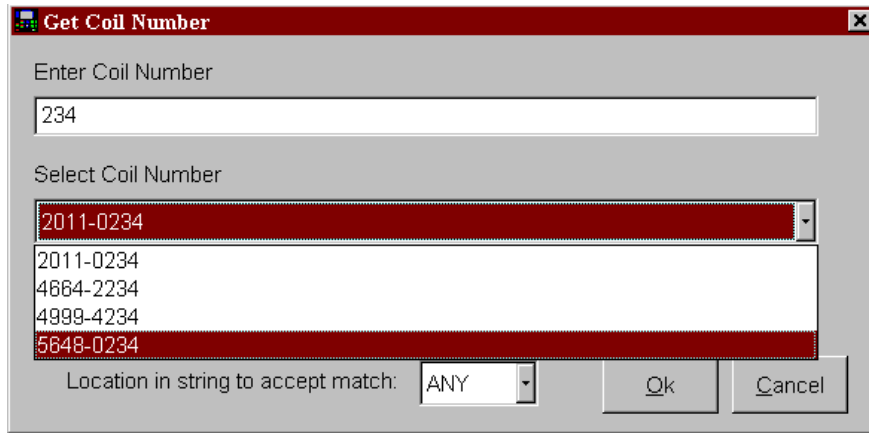
The number of matches will be displayed on the bottom of the locate screen. The actual matches are shown in the drop-down selection box (see the following example). To find the desired coil, select it from the list and press the OK button.

Location in string to accept match

This setting selects whether the number you are matching is located at the "beginning" of the coil number or if it is located "anywhere" in the coil number. This comparison method (beginning or anywhere) can be used in conjunction with the "minimum number of characters before looking for matches", and the "number of matches to display" options that can be changed in the Settings screen under the Maintenance menu.

Search

The second method for finding a coil is the Search button. Rather than finding a coil by the coil number, it looks for coils by attributes such as material code, date in, status, etc.

A number of columns can be used as the search key. In the screen above, the partial material code is being searched for "GLV". The screen says that there are 4 matches. This means that four material types contain the combination of "GLV" in the material name. See the following window.

Upon locating matches to your search, select the "Select a Match" dropdown list and choose the appropriate material. This can also be done by press "CTRL; M".

"Coil Inventory" Column Descriptions

Coil Number   The number that is assigned to a specific coil. It should uniquely identify a particular coil. This is typically a serialized number. This number can be assigned by the vendor or renumbered by the end-user.

Material Code   The material code is a unique identifier for a particular combination of thickness, width, color, finish, hardness, alloy, etc. The code used can be very descriptive (i.e. "14ga 10in Red-Ox") or more cryptic (i.e. "141GG321").

Description   An open text field that can be used in whatever manner the user desires. It is basically a field for additional notes regarding material features that are not already accounted for.

Date In   The date the coil was received at the plant (or into the inventory system).

Date Out   The date the coil was completely used. This is automatically fed back from the XL controllers.

Est. Length   Estimated starting length of the coil. The coil can be entered by length or weight. If length is used, the weight will be automatically calculated based on the weight/length conversion for the material code.

Length Used   Footage of material used to-date. This length is automatically updated by XL-Comm.

Completed   If the respective coil is completed (used), a check mark will appear in the check box. This can also be manually entered by highlighting the field and pressing the spacebar.

Cost/Lb   The cost of the coil per pound. The cost-per-unit-mass conversion factor is used by some reports to show material costs per job. This is automatically calculated if the Coil Cost column is entered first.

Vendor   The actual name or code for the manufacturer of the coil.

Nex Scrap Ft.   The reported scrap footage that is designated as "non – exempt". This is typically used to determine coil scrap that is caused by production methods and handling.

Ex Scrap Ft.   The reported scrap footage that is designated as "exempt". This is typically scrap that results from receiving faulty coil products, be it wrong gauge, width, paint, etc.

Weight   The starting mass of the coil. If this number is entered first, the Est. Length will automatically be calculated.

Coil Cost   Cost for the coil. If this number is entered first, the Cost/Lb field will be automatically calculated.

Other Adjust Ft.   This can be updated with the length of the coil that may have been used for testing or some other reason not recorded by the XL controller. This is provided to be able to account for the entire length of a coil.

User Fields 1 – 10 There are 10 user fields that can be enabled and used. Each field can be customized and renamed and used as an additional tracking and filtering method. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the "Maintenance" menu.

Maintenance

Eclipse software is used in a wide variety of industries. It is essential that users are able to customize the software to meet their specific needs. These customizations include: defining the machines in the plant; what products can be produced on each machine; available materials; scrap and delay categories; etc.

Select "Maintenance" from the tool bar on the main status screen.
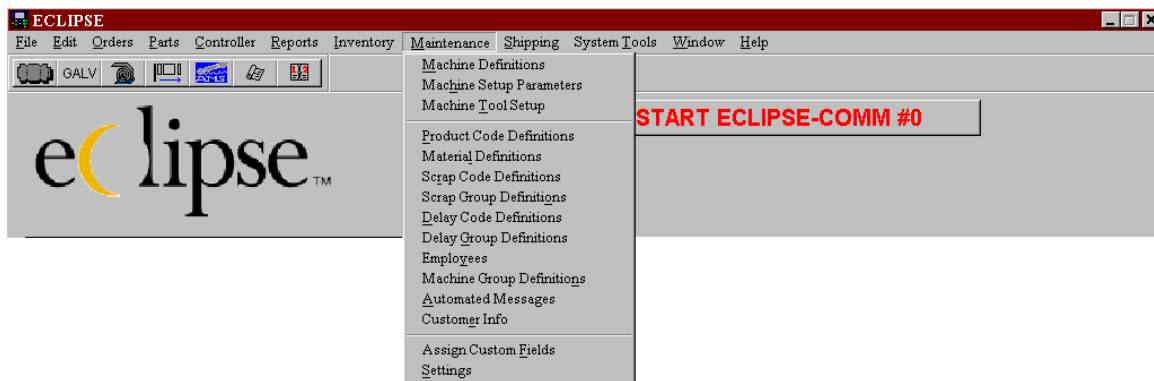
There are few items that require definition in the standard Eclipse package, but optional items that can be added may require the end-user to define respective terms.

The first step in utilizing Eclipse software is to customize the package to your specific needs. First, define the machines in operation and set up typical working shifts. Select "Maintenance" from the Command bar on your Status Screen.

The maintenance menu is where potential customizations can be set to match your specific needs.

Machine Definitions

First, define all machines that are connected to the PC. Each machine that is connected to the Eclipse communication line is assigned a unique network number. This is a number between 1 and 30. This same number must be programmed into the XL controller under "network number" on the XL controller's communications setup screen.

Select the **"Machine Definitions"** screen to configure machine-specific options for various features of the Eclipse-Link software. This includes shift definitions and handling, how punch patterns are maintained at the XL controller, and how many new orders should be sent to a controller that is running out of scheduled work. Below is a description of each of the column headings found on this screen:

"Machine Definitions" Column Descriptions

Machine Desc. The machine description should be whatever name is commonly used to identify the machine. Some companies use descriptive names such as "Structural Mill #1". Others refer to each machine by number; this number may not match the machine's network ID (especially for companies with many locations).

Active Each machine can be set "Active" or "Inactive". The Eclipse-Comm software will not attempt to communicate with machines labeled as "Inactive". This speeds up communications with machines that are active since Eclipse-Comm will not waste time waiting for a response from a controllers that are offline for whatever reason.

Machine ID A unique number (From 1 to 30) assigned to each machine to distinguish it from all other machines. If multiple Communication is used, units 101 to 130 and 201 to 230 can also be assigned. The first digit is then assigned to the Communication Setting number and the last two positions refer to the XL controllers ID number.

Pattern % The pattern percentage controls how often Eclipse-Comm deletes unneeded patterns from the machine. As the percentage of memory usage at the controller grows, Eclipse will poll the controller to see how much of the total memory is being used for patterns. If the percentage exceeds the amount specified in this parameter, then the oldest of the patterns will be deleted until the pattern percentage is lower than what is programmed on Eclipse.

If the same patterns are re-used frequently, a higher pattern percentage will keep patterns at the controller longer. This increases the chances a pattern could be re-used. If most patterns are unique and only used once, a lower percentage is better since fewer patterns will be kept at the XL controller, thus reducing memory usage.

Clear Shift If this box is checked, the XL controller's shift footage accumulator will be cleared at the beginning of each shift. The new operator will start with a shift footage of

0.00 ft. If this box is not checked, the footage will continue to accumulate until cleared manually by the operator.

Min. Footage This parameter controls how many orders (how much lineal footage of orders) should be sent to a controller that is running low on scheduled orders. This only applies when the XL controller is set to automatically request more orders when available amount footage at the controller drops below a pre-set threshold set by the "Minimum Footage to Request Orders" parameter at the XL controller.

By default, Eclipse-Comm will send one order. If this is a small order, it may not be enough to push the available footage over the threshold and the controller will not make any more requests. If a minimum footage is specified, however, Eclipse-Comm will send as many orders as necessary until it has sent at least the minimum footage specified. "Minimum Footage" should be programmed to an amount larger than the corresponding "Minimum Footage to Request Orders" parameter in the XL controller. Programming an amount less than this may cause the XL controller's auto request feature to stall.

Shift Times Each machine can have its own shift times. Shift times are used to organize production data for reporting. Up to three shifts can be defined per machine. Times are specified in 24-hour time. The first shift for a day can start the previous night. Likewise, the last shift can end the next morning as long as the total time for the shifts equals 24 hours. These shift times apply to all days in the week. Shift times can also be specified with the graphical time-line at the bottom of the screen. Each shift has a slider-bar that can be moved with the mouse. The left and right arrow keys can also be used for fine adjustments to the shift times.

Default Time If this box is checked, the selected machine's shift times will match the plant-wide default shift time. The default shift time is defined in the "Settings Screen" under the Maintenance menu. If the default time is changed, all machines with this box checked will be updated to match.

Machine Group   Each machine can be assigned to a machine group. Machine groups are useful when reporting production data and for organizing delay and scrap reasons. Each machine group can have its own independent set of delay codes and scrap codes.

User Fields 1 – 10 There are 5 user fields that can be enabled and used. Each field can be customized and renamed and used as an additional tracking and filtering method. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the "Maintenance" menu.

Machine Setup Parameters

The Machine Setup screen is used to review the history of changes to the setup parameters at each controller as well as to maintain and download libraries of setup parameters. Please note that changes to setup parameters can only be made at the XL controller.

Select "Machine Setup Parameters" to access the screen above, allowing the viewing of the parameters that are presently at the selected machine. Note the dropdown list on the lower-left corner of the screen. This is used to select which machine parameters are to be displayed.

Each time a change is made to the setup parameters at an XL controller, Eclipse records the date and time, uploads the new parameters, and creates an "instance" in the history for that machine.
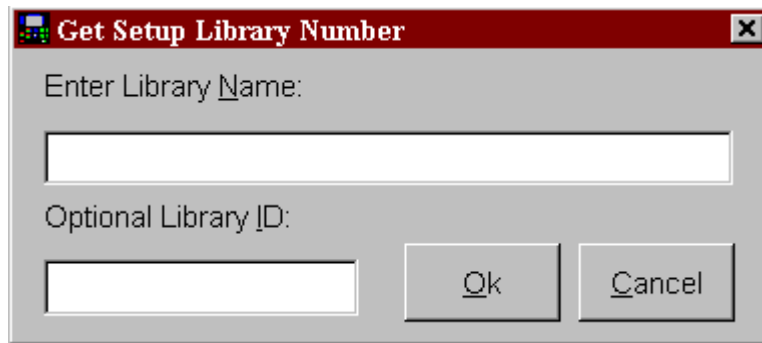
The "Machine Setup Parameters" selection provides two tabbed screens, one for checking currently updated parameters and creating new libraries, and one for the viewing and downloading of those libraries.

Setup History

The Setup History page displays all setup parameters for the currently selected machine and instance. The arrow buttons on the right side of the screen can be used to navigate forward and backward through all recorded instances. Setup parameters that changed since the last instance are displayed in black. Unchanged parameters are shown in red.

Entire "Instances" of setup parameters can be saved as libraries. It may only be necessary to have a single setup library with "known good" values. If someone mistakenly changes the setups on a machine, it is a simple procedure to download from the good library and get the machine back on track quickly. On some machines, it may be necessary to have several libraries defined, each library corresponding to different products or machine configurations for the same machine.

To create a new setup library, select the instance and click on the "Add Library" button. As shown below, you will be prompted to enter the name for the library as well as an ID number (optional). The library ID number can be used in conjunction with the custom menu feature (see chapter XXX) to download setup parameters automatically when a custom menu option is selected.

"Setup History" Column Descriptions (all read-only)

Seq. #   The sequence number shows the order the setup parameters are physically displayed at the XL controller. They are grouped in logical order on the XL controller. On this display, they can be listed in logical order or in alphabetical order by selecting the appropriate column.

Parameter   This is the name associated to a specific setup parameter.

Setup Value   This is the specific value that is assigned to the respective setup parameter.

Setup Library

The setup library page shows the setup parameters for the selected library and machine. Different machines may be selected by choosing from the "Machine" drop-down list in the lower left-hand corner of the page. Likewise, the "library" drop-down list will enable you to select from several different setup libraries.

A library of setup parameters can be sent to the XL controller by clicking on the *Download* button. This will download the entire setup list to the controller, overwriting all parameters that were on the controller previously.

It is also possible to send a list of available setup libraries to the XL controller by pressing the *Send List* button. When this list is sent, the operator at the machine can request the download of a particular library of setup parameters from the Eclipse PC.

Note that there are also window buttons to print the current library or to delete a library.

Column Descriptions (all read-only)

Seq. #   The sequence number shows the order in which the setup parameters are physically displayed at the XL controller. They are grouped in logical order on the XL controller. On this display, they can be listed in logical order or in alphabetical order by selecting the appropriate filter.

Parameter   The name assigned to a specific setup parameter.

Setup Value   The programmed value assigned to the setup parameter that it reflects.

Machine Tool Setup

The Machine Tool Setup screen is used to review the current tool definitions at each controller as well as maintain and download libraries of tool definitions. Note that changes to tool definitions can only be made at the XL controller.

Current Tools

The first tabbed page for *Machine Tool Setup* is "Current Tools". The tools that are currently programmed at the XL controller will be displayed here. Selecting the "Upload" button will cause Eclipse to request the most recent list of tool data from the XL controller.

Tool definitions can be saved as libraries. It may only be necessary to have a single tool library with "good" values. If someone mistakenly changes the tool definitions on a machine, it is a simple procedure to download from the good library. On some machines, it may be necessary to have several tool libraries defined corresponding to different products or machine configurations.

To create a new tool library, click on the "Add Library" button. You will be prompted to enter the name for the library as well as an ID number (optional). The library ID number can be used in conjunction with the custom menu feature (see chapter XXX) to download tool definitions automatically when a custom menu option is chosen.

There are 5 window columns containing information about each tool as defined at the controller. These are listed here:

"Machine Tool Setup" Column Descriptions (all read-only)

Tool	This is the alphanumeric number that is assigned to a specific tool. The number range can be "1" to "ZZZ" (1-999 and 00A to ZZZ).
Press	This identifies which press that this particular tool will be activated under.
Gag	This identifies which gag is required to engage in order for the tool to work. If no gag is required, this field will be left blank
Offset in	The "Offset in" *(Offset Inches)* reflects the distance the tool is from the zero reference point on the machine. This zero reference point is typically at the actual shear point of the cutoff press, but does not have to be. This parameter will be displayed in decimal inches.
Tool Name	This parameter gives a specific tool a "nickname" to make it easier for operators and programmers to identify a tool later on. Names such as "Shear", "Hole Punch", "Pre-Notch", etc can be used.

Tools Library

The "**Tool Library**" page shows the tool definitions for the selected library of the selected machine. Different available tool libraries can be selected by using the "Library" drop-down menu at the lower part of the window, towards the center. Different machines can be accessed using the "Machine" drop-down menu..

Machine Tool Setup

Current Tools (1)	Tools Library (2)

Model: XL106BP   Type: 17   Presses: 4
Version: 7.16   Library ID: 0   Gags: 3

Tool	Tool Name	Press	Gag	Offset in	
0	SHEAR	1	0	0.000"	
1	PUNCH-1	2	0	35.500"	
2	PUNCH-2	3	0	45.125"	
10	PRINTER	4	0	20.850"	

Machine: (3)   Library: (4)

Stud Line #001	Stud-2-01	☑ In Controller List

Print	Send List	Delete Library	DownLoad	Save	Revert	Close

A specific "Tools Library" can be selected and then sent to the XL controller by clicking on the *Download* button.

It is also possible to send a full list of all available tool libraries to the XL controller by pressing the *Send List* button. When this list is sent, the operator at the machine can request a download of tool definitions by selecting from one of the libraries that will then be shown on the XL controller.

AMS CONTROLS

Product Code Definitions

Product codes are used to identify the tooling or machine configuration required to produce a part. In most cases, a particular product can only be run on a limited number of machines. Because of this, it is necessary to define each machine on which a given product can be run. One machine may have several product codes and likewise, one product code can be associated with several machines.

Prod. Code	Description	Machine ID	Machine	Finished Width	Staging Bay
S0010	Dry Wall Stud	1	Stud Line #001	3.500"	C
RR060	Structural Plate	11	Structural Line #202	10.500"	N
S0010	Dry Wall Stud	2	Stud Line #002	3.500"	C
S0015	Str. Stud - Residential	1	Stud Line #001	3.500"	B
S0017	Str. Stud - Commercial	2	Stud Line #002	3.500"	B
P1022	Economy Panel	5	Panel Line # 101	37.500"	E
P1030	Seamless Panel	6	Seamless Panel #102	26.000"	G
P1026	Deep Ridge Panel	5	Panel Line # 101	37.500"	E
P1026	Deep Ridge Panel	6	Seamless Panel #102	37.500"	E
Z2007	Purlin-Z 7.5 inch	10	Purlin Line # 201	7.500"	M
Z2009	Purlin-Z 9.5 inch	10	Purlin Line # 201	9.500"	M

Print   Add   Delete   Save   Revert   Close

All Product Codes and their associated machines MUST be defined before scheduling orders for production. The "Order Scheduling" screen uses product codes to determine which orders are available to be scheduled on a particular machine.

Each entry in the product code screen is a combination of product code and machine. If a machine can run five different products, there will need to be five product code entries for the various products, but all with have the same machine ID. More than one machine can use the same product code.

AMS CONTROLS

"Product Code Definitions" Column Descriptions

Prod. Code   The uniquely assigned code number for a specific product or tooling set. This field is limited to 5 alphanumeric characters.

Machine ID   The identification (ID) number for the machine. This is set up in the "Machine Definitions" screen and the range is 1 thru 30, 101 thru 130, and 201 thru 230 (Depending on the number of Eclipse-linked pc's).

Description   Provides for user's general description of the product for informational purposes and subsequent tracking.

Finished Width   For roll-formed sheet products such as metal roofing, decking, etc, the finished width is the width of the part after roll forming. This is used to calculate coverage in squares.

                        Note: In a strict sense, the finished width does not depend entirely on the tooling used. The coil width also plays a role although in most cases only one coil width is used with a given product code.

Machine   (Read Only) The name or "handle" given to a specific piece of machinery (automatically filled-in based on the machine ID). The machine name is the "nickname" of the specific machine and is programmed in the "Machine Definitions" page.

Staging Bay   The location assigned for the use of gathering and bundling of a particular product.

Loading Dock   The loading dock that is designated as the drop point for a particular product.

User Fields 1 – 5 There are 5 user fields that can be enabled and used. Each field can be customized and renamed and used as an additional tracking and filtering method. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the "Maintenance" menu.

Hole Spacing   Sets the distance between punch operations when using the hole option and even spaced patterns.

Calc Length   When checked, allows Eclipse to calculate the length of the part by formulating the hole spacing, offset distance, and number of holes.

Hole Count   When checked, determines that the products being produced requires the hole option to be activated.

Material Definitions

The material code identifies the material used to produce a specific order. The material code can be up to 20 alphanumeric characters in length (18 characters if the controller is using product codes) and is used to validate the material code for orders. Because of this, the possibility of accidentally downloading the wrong material code with an order is virtually eliminated.

Material	Description	Color	Gauge	Width in	Weight / Ft.	Type	Cost / Lb
GLV-7.0-16-R	7 inch galvinized, Reprocessed	GLV	16	7.000"	0.38 Lbs/Ft	100	0.1700
ROX-14-12	14 inch red oxide	ROX	12	7.500"	1.12 Lbs/Ft	300	0.3200
GLV-7.0-16-P	7 inch galvinized, Premium	GLV	16	7.000"	0.38 Lbs/Ft	100	0.1700
GLV-8.0-14	8 inch galvinized, Commercial	GLV	14	8.000"	0.43 Lbs/Ft	100	0.1900
GLV-8.0-12	8 inch galvinized, Residential	GLV	12	8.000"	0.48 Lbs/Ft	100	0.2100
ROX-16-12	16 inch red oxide	ROX	12	9.500"	1.43 Lbs/Ft	300	0.3900
ROX-18-10	18 inch red oxide	ROX	10	11.500"	1.87 Lbs/Ft	300	0.5900
46-16-WHT-P	Premium Panel, white	WHT	16	46.500"	1.14 Lbs/Ft	200	1.1000
46-16-GRN-P	Premium Panel, green	GRN	16	46.500"	1.14 Lbs/Ft	200	1.2000
46-16-TAN-P	Premium Panel, tan	TAN	16	46.500"	1.14 Lbs/Ft	200	1.2000
42-16-WHT	Econo-Panel, tan	WHT	18	42.500"	1.12 Lbs/Ft	200	0.9500
42-18-TAN	Econo-Panel, tan	TAN	18	42.500"	1.12 Lbs/Ft	200	0.9800
46-16-BRN	Premium Panel, tan	BRN	16	46.500"	1.14 Lbs/Ft	200	1.2000
SPW-.375-10.5	Plate, stuctural	ROX	3	10.500"	1.75 Lbs/Ft	400	1.2900

Print   Add   Delete   Locate Material   Search   Save   Revert   Close

If coil checking is being used, the coil number entered by the operator will be checked against the material code. If the coil number that was entered is not listed under the material code for that job, an error will be displayed at the XL100 controller as well as on Eclipse-Comm. The XL100 controller will halt and cannot be restarted until the error message is cleared. (See the section on coil verification later in this Chapter).

"Material Definitions" Column Descriptions

Material   The material code is a unique identifier for a particular combination of thickness, width, color, finish, hardness, alloy, etc. The code used can be very descriptive (i.e. "14ga 10in Red-Ox") or more cryptic (i.e. "1410GG0321").

Description   The description field is simply used to make the material code more understandable. This is especially
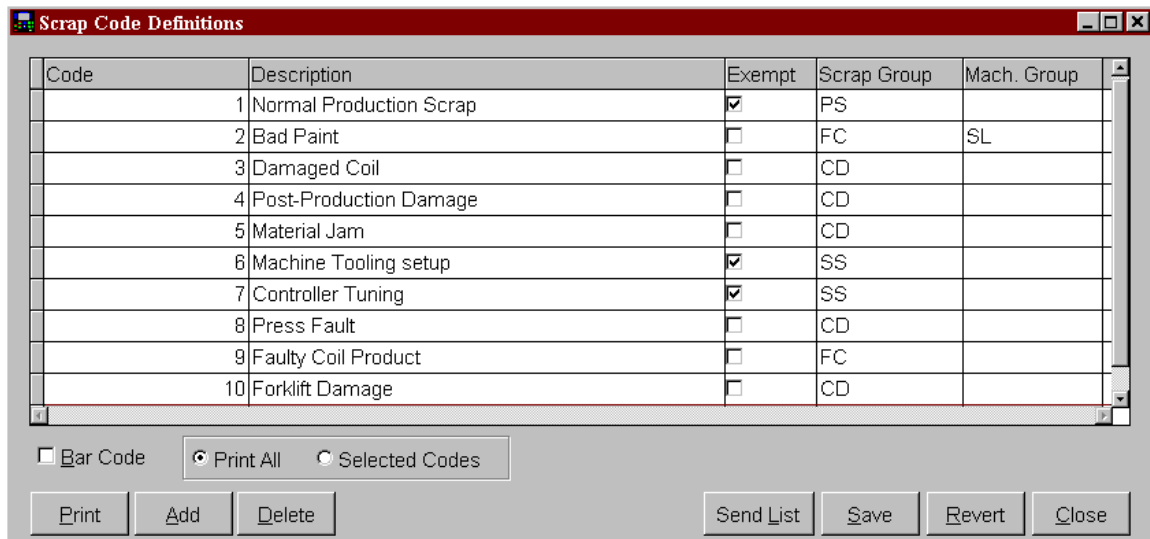
helpful for material codes that are simply identification numbers.

Color This can be used for the color of painted material or the type of finish (i.e. galvanized).

Gauge The gauge field is for nominal gauge values such as 22 ga. or 14 ga. If decimal thickness is needed, a user-defined field can be added to the material list (see chapter XXX for more information on user-defined fields).

Width The width of the raw material prior to any roll- form operations. It should not be used for the finished product width (finished width can be specified in the product code definition screen).

Weight/Ft Many buyers of steel coil deal strictly with weights. In order to enter and track coil information in pounds, it is necessary to define the conversion between lineal footages and the corresponding weight. When using metric units, this field is expressed as kg/m).

Type The definition of this field is open to the user and can be used as a customized field for a variety of purposes.

Cost/lb In order to show material costs, it is necessary to first define the price per unit mass for each material type. When using imperial units, this will be cost/pound. When in metric, it is cost/kg.

User Fields 1 – 5 There are 5 user fields that can be enabled and used. Each field can be customized and renamed and used as an additional tracking and filtering method. Before the user fields will be displayed on the screen, they must be given a new name in the "Assign Custom Fields" menu selection found in the "Maintenance" menu.

Scrap Code Definitions

The XL series controllers have a variety of features designed to accurately track scrap generated on a machine. These features allow the operator to specify a reason for the scrap. This scrap information is then uploaded to the Eclipse software and can be reviewed through several reports.

Code	Description	Exempt	Scrap Group	Mach. Group
1	Normal Production Scrap	☑	PS	
2	Bad Paint	☐	FC	SL
3	Damaged Coil	☐	CD	
4	Post-Production Damage	☐	CD	
5	Material Jam	☐	CD	
6	Machine Tooling setup	☑	SS	
7	Controller Tuning	☑	SS	
8	Press Fault	☐	CD	
9	Faulty Coil Product	☐	FC	
10	Forklift Damage	☐	CD	

☐ Bar Code   ⦿ Print All   ○ Selected Codes

Print Add Delete   Send List Save Revert Close

To simplify recording of scrap, each scrap reason is assigned a unique code. At the XL controller, the operator can enter the scrap reason using this code. It is also possible to download the entire list of reasons to the controller for viewing by the operator. Instead of entering a code, the operator can pick from a menu of the Scrap Codes. To download this list, Click on the *Send List* button.
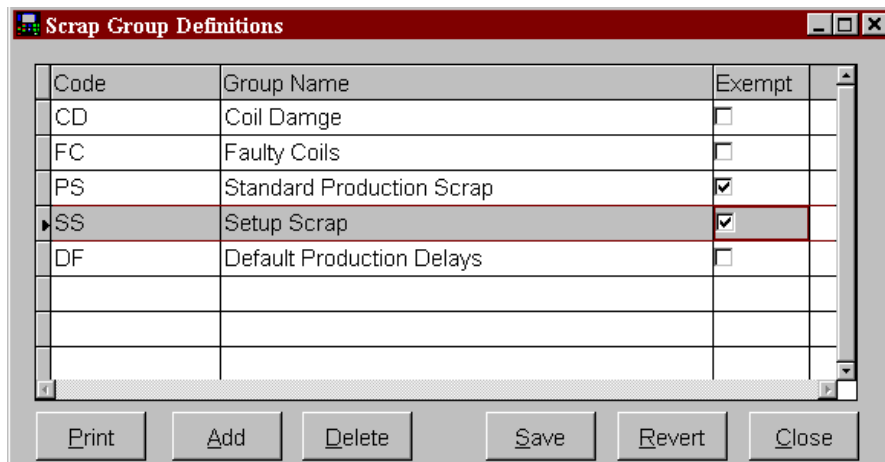
When printing the list of scrap codes, it is possible to print bar codes with each scrap reason if your version of Eclipse has this option installed. These bar codes can be scanned at the XL controller to automatically consider the current part as scrap and create a new part to make up for it. The scrap reason depends on the bar code scanned. This is the same as pressing the Inc Qty button on the controller, but much faster and less error-prone. To print the list of scrap reasons with bar codes, make sure the *Bar Code* box is checked before pressing *Print*.

"Scrap Code Definitions" Column Descriptions

Code   The "Code" is the unique, numerical scrap code that is assigned to specific scrap reason as described in the "Description" field. This is programmable from 0 to 99.

Machine Group   Each machine group can have its own set of scrap codes. Leave this blank when the complete set of scrap codes apply to all machines.

Description   This is a basic text description for the scrap reason. This text is what appears on the controller if the scrap list is downloaded to the controller.

Scrap Group   Each scrap reason can be assigned to a scrap group. Some scrap reports may use this grouping to summarize relate scrap reasons.

Exempt   The exempt option is used to indicate scrap reasons that were unavoidable or not controllable. These could include material defects that came from the coil vendor, normal production scrap (trimming off leading edge of a new coil), etc.

Scrap Group Definitions

Scrap codes can be assigned to a scrap group. This is useful in organizing scrap reports into broad categories. These groupings are typically associated with a particular process such as the production of the coil, handling of the coil, roll forming defects, process control defects, handling of the finished product, etc.

Code	Group Name	Exempt
CD	Coil Damge	☐
FC	Faulty Coils	☐
PS	Standard Production Scrap	☑
▶ SS	Setup Scrap	☑
DF	Default Production Delays	☐
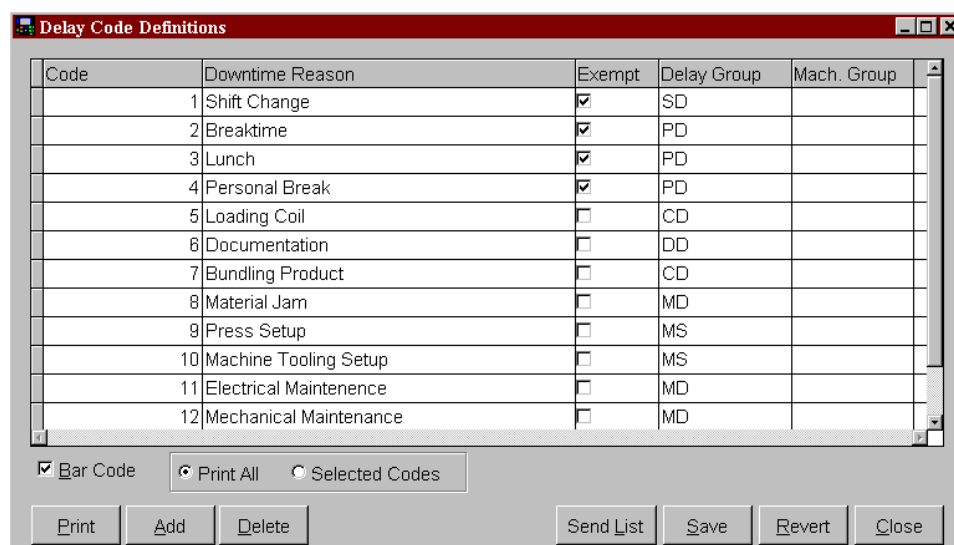
Print   Add   Delete   Save   Revert   Close

"Scrap Code Definitions" Column Descriptions

Code	The two-digit numeric code applied to a specific scrap group.
Group Name	A Descriptive text name given to a particular scrap group.
Exempt	If a scrap code is assigned to a group that is marked as exempt the scrap code will automatically be made exempt. Scrap codes automatically get the exempt status if the group is exempt.

Delay Code Definitions

The XL series controllers can be configured to accurately track the reasons for any delays incurred at the machine. Any delays that are longer than a predetermined length of time (set at the XL controller) will require the operator to enter a reason for the delay before the machine can be restarted. This delay information is uploaded to the Eclipse software and can be reviewed through several reports.

To simplify recording of delays, each delay reason is assigned a unique code. At the XL controller, the operator can simply enter the delay reason using this code. It is also possible to download the list of reasons to the controller. Instead of entering a code, the operator can pick from a menu of reasons. To download this list, press the *Send List* button.

When printing the list of delay codes, it is possible to also print bar codes with each delay reason if your version of Eclipse has this option installed. These bar codes can be scanned at the XL controller to record the reason for the preceding delay, saving operator entry time and errors. The delay reason will depend on which bar code is scanned. It is possible to scan delay codes for a variety of reasons before restarting the machine.

For example, ten minutes before noon, the current coil is expended. The machine stops and the operator begins to change the coil. At noon, he stops and scans the "Change Coil" code. After a thirty-minute lunch he scans "Lunch Break" and continues loading the coil. Before starting the mill up five minutes later, he scans "Change Coil" again. By following this procedure, he has accurately recorded the reasons for the 45-minute downtime.

To print the list of delay reasons with bar codes, make sure the *Bar Code* box is checked before pressing *Print*.

"Delay Code" Column Descriptions

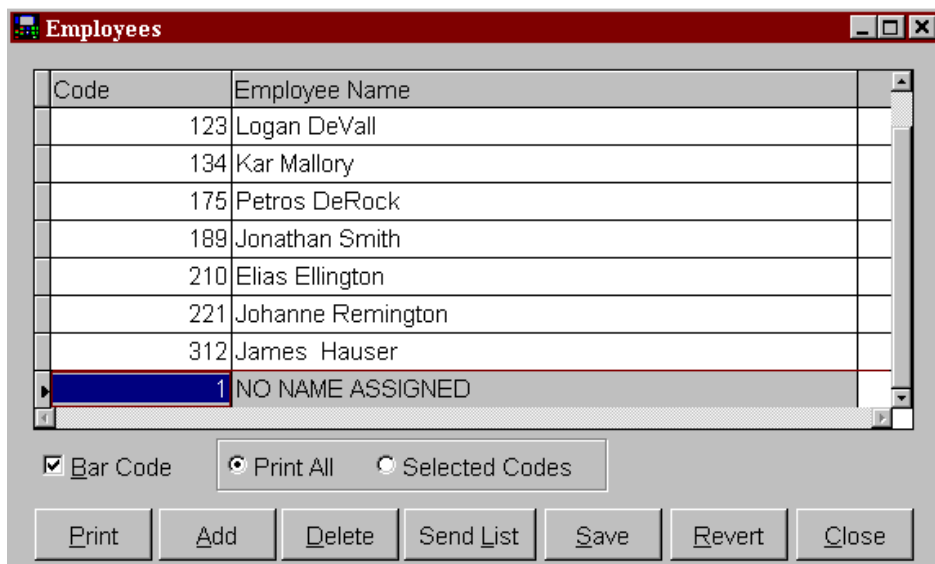|	
Code	The two-digit numeric delay code (0-99). Each of these codes is assigned a specific delay reason that can be displayed or reported on.
Machine Group	Each machinery group may have its own set of delay codes that can be used for summarizing delays.
Description	A text description for the delay. This text will appear on the controller in the "delays" selection list if downloaded to the XL by pressing the "Send List" button.
Delay Group	Each delay reason can be assigned to a delay group. Some delay reports use this grouping to better organize and structure the report forms.
Exempt	Any delays that are expected during a production run should be marked as exempt. This normally includes break time, safety meetings, unscheduled time, etc.

Delay Group Definitions

Delay codes can be assigned to a "**Delay Group**". This is useful in organizing and filtering delay reports into broad categories. This will allow for easier tracking over a specific range of delay reasons.

"Delay Group Definitions" Column Descriptions

Code   The two-digit numeric delay group code used to identify the group.

Group Name   This test entry is a general description used to uniquely describe this group.

Exempt   Any expected delay should be marked as exempt. This normally includes break time, safety meetings, unscheduled time, etc. When a delay code is assigned to a group, if the group is marked as exempt the delay code will automatically be made exempt.

Employees

When recording reasons for either run delays or scrap occurrences at the machine, the XL controller also prompts the operator for his/her **employee number**. The employee number is reported to the Eclipse software with the reason for the delay. Upon inspecting reports, not only the delay reason will be known, but also the operator who entered the delay reason.

As with the scrap and delay codes, it is possible to print out the employee list along with matching bar codes (if your version of Eclipse has this option installed). This will enable and employee to scan in his/her employee number or name quickly and efficiently. With this information, it is possible to create reports that compare the activities and productivity of workers. This can enable an employer to highlight areas where additional training would be helpful.

### "Employees" Column Descriptions

Code   This is the employee number (or code) that is assigned to respective employees for tracking and reporting purposes.

Employee Name   This is the employee's regular name or nickname. This will be selectable from a list at the controller if this feature is enabled.

Machine Group Definitions

Each machine listed in Eclipse can be assigned to a "Machine Group". The machine groups are typically created according to the specific type of products produced by those machines. Each defined machine group can be assigned its own list of scrap codes and delay codes.
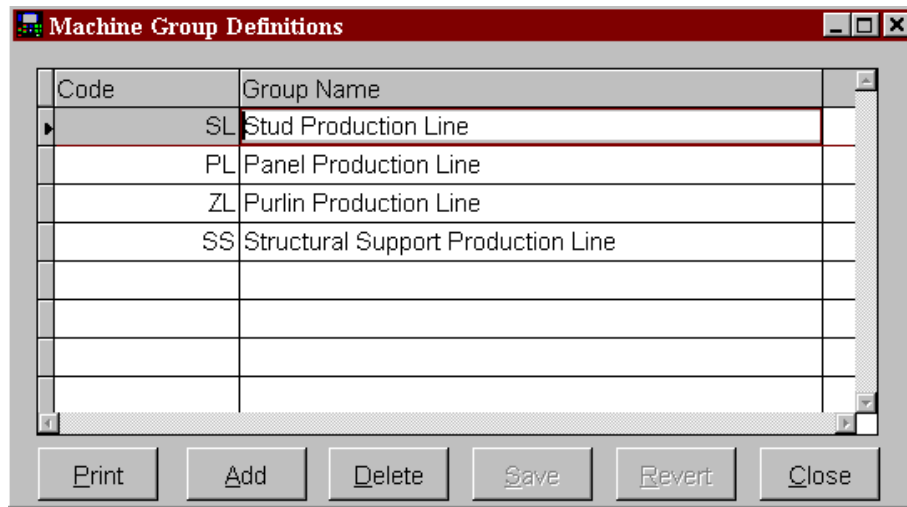
Some of the available reports are broken down by machine group to improve the ability to track specific production, scrap or delay trends. When downloading lists (i.e. scrap & delay codes) or operator messages, it is possible to send the information to entire machine groups simultaneously.

Column Descriptions

Code	The two-digit alphanumeric code given to a specific "Machine Group"
Group Name	The assigned name given to a "Machine Group" that has a common product or output.

Automated Messages

This feature will enable pre-written messages to be automatically sent to a machine on a timed basis, either hourly, per shift, or by specified times. This can be used to distribute information on a regular basis; keep up with preventive maintenance, give safety reminders, or just to remind an operator to perform a regular function.

Frequency	Start Time	Machines	Message	Last Time	Last Shift	Last Tim
HOURLY	01:00:00	All Machines	Safety First!	03/05/2001 04:00:54 PM	0	03/04/20
SPECIFIC	4 :00:00	Panel Product	Use plastic sheet se	03/04/2001 12:00:00 AM	0	03/04/20
SHIFT	24:00:00	All Machines	Record all footage to	03/05/2001 03:41:59 PM	1	03/04/20

Add   Delete   Save   Revert   Close

The "Automated Messages" screen has been set up to easily define how often the message will be sent, when it will be sent initially, to which machine, and the content of the actual message.

"Automated Messages" Column Descriptions

Frequency	How often the message will be sent to a particular machine. Clicking on the drop-down list displays the four selections.
Hourly	The message will be sent once hourly, with the first one being displayed at the "Start Time".
Shift	The message will be sent during every shift and will be displayed at the time after the shift starts defined by "Start Time".
Specific	A specific time of the day at which the message will be sent.
Disabled	Disables the selected message from being sent or until re-enabled.

AMS CONTROLS
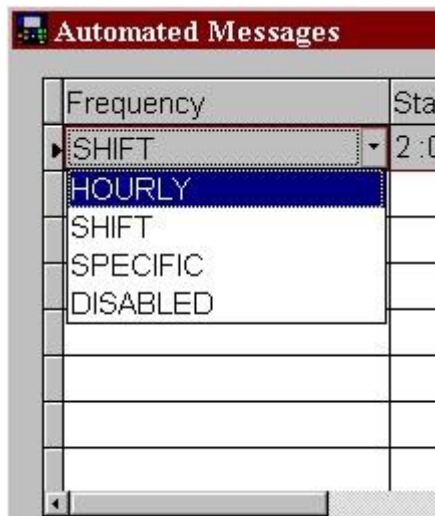
Start Time The time selected to send the message, or to send it for the first time if a "Frequency" of hourly or by shift is selected.

Machine A string of machine ID numbers (As selected in "Machine Definitions") that that can be selected to receive the message. A particular message can be sent to a single machine or multiple machines as selected.

Message The alphanumeric text message that will be sent to the operator via the machines XL controller display.

Last Time (Read Only) Defines the last time the message was sent. A date and time is given. This column may be repeated for additional Eclipsed-Linked pc's if multiple comms are activated.

Last Shift (Read Only) Defines the last shift to which the message was sent to. This column may be repeated for additional Eclipsed-Linked pc's if multiple comms are activated.

Customer Info

This screen will allow the programmer to designate customer codes for specific customers by location or account as well as for outbound shipping information. This enables the easy application of customer-specific information for printer applications at the machine.

Column Descriptions

Code	The 11-digit alphanumeric code used to designate a specific customer account.
Name	Represents the full name of the actual customer that is displayed on printed information. (30-character limit)
Address #1	The first address field, as it will be printed on the part on tags at the machine. (30-character limit)
Address #2	The second address field, as it will be printed on the part on tags at the machine. (30-character limit)
City	This is the name of the City of this particular Account. (30-character limit)
State	State location (i.e.: Missouri) for the company of a particular Account. A drop-down menu is provided.
Zip	Zip code of this particular account.
Country	The Country for this account (Allows 3 character code)

Ship Instructions Any special shipping instructions that should be printed on the part or on tags should be added here. (30-character limit)

Locate Customer

A command button is provided to assist in locating a particular customer or customer code. Click on "Locate Customer" to find a specific Code or Customer name.

Enter Customer Code

Enter at least a portion of the code name. See the example screen above. The user designates the codes to start with the first few letters of the company name. Typing in "Am" will cause all codes sharing those letters to be displayed in the "Select Customer Code" drop box.

Select Cust. Code

This drop-box will display all codes that match the partial entry from the "Enter Customer Code" box.

Matches

A read-only field. It shows how many codes match the information typed into the "Enter Customer Code" field.

Location in String to Accept Match

When Eclipse searches for matches to the partial code that is entered into the "Enter Customer Code" box, this selection determines if only codes that "Begin" with the partial code will be searched or if codes that contain the partial code anywhere in its string will be searched.

For example, if "Begin" was selected and "Ex" was entered into the "Enter Customer Code" box, only the company of "Exporters Specialists, LTD" would show up, whereas if "Any" was selected, both "Exporters Specialists, LTD" and "Alexandria Metals Company" would both be displayed.

Assign Custom Fields

It may be necessary to track information that is not normally included with the Eclipse software. To do this, use the Assign Custom Fields screen to add new data fields. This will allow the user to use customized fields for information on print messages, as screen and report filtering attributes, and for some maintenance screens.

To add custom fields, first select the "Table Name" by using the drop down list in the lower-left portion of the screen. Currently, the following tables can be modified:

Available Tables for Assigning Custom Fields

Orders	Contains all information about orders. Each record in this file corresponds to a combination of order number, material code, and product code. Also known as the schedule table.
Bundles	Any information specific to a bundle within an order.
Items	All cut-list data is found in this file. A common user-defined field for items is a part description.
Coils	Coil inventory is stored here.
Machines	Contains all information about the current machines (both active and inactive).
Products	Contains all product code information is found in this file.

Materials	Contains all information about material codes.
Parts	Each record in this file corresponds to a part number.
Punches	Contains punch location information for all parts.

Each table has a maximum number of fields that can be added. Items and Punches can have up to two fields, Coils can have as many as ten, and all other tables are limited to five additional fields.

"Assign Custom Fields" Column Descriptions

Field Name	Pre-defined name given to a field as it is stored in the data table.
Type	Data type of the field. Available choices include:

Character	Used for relatively short alphanumeric data (where the size will be limited by the Length column).
Numeric	Used for any strictly numeric data.
Date	Used for date entry (Y2K compliant!).
Date & time	Used for date & time combinations.
Logical	Can be either true or false.
Memo	Used for large alphanumeric data of variable size (not constrained by the Length column).

Length	Defines the maximum number of characters or digits for a data field. This includes the decimal point for numeric data with one or more decimal places.
Decimals	Number of decimal places for a numeric field.
Display Capt.	User-defined column heading for this data field. For example, the display caption for a field named User1 might be "Piece Mark".
Defined Std	A read-only field that is already defined in the Std_Win file.
In Table	"In Table" indicates if the data field already exists in the actual table (as opposed to a newly created field that hasn't been added to the file yet). This is a read-only field.

Data Exists   Shows if any data exist for this field. This is useful information to know before deleting or significantly changing a custom field. A read-only field.

Active   This box is set by the "Activate" button and removed by the "Delete" button. Deleted entries will remain on the form but will show as not "active" until the changes are "saved". This is a read-only file.

Defined User   Displays that the field is already defined in the supplemental user field file. A read-only file.

Settings

The "Settings" screens are used to configure the various features of the Eclipse software. There are eight tabbed pages, each with its own grouping of customizable settings. In multi-user installations, some of these settings apply to all users while others only affect the current user.

Do not show the about form on startup

By default, the about form is displayed when Eclipse or Eclipse-Comm are first started. This form shows the version number of the software, copy write notice, installed options, etc. If this option is checked, the about form will not be displayed. To locate the about form manually, look under the Help menu.

Updates

Ask for Confirmation

Before performing an action the user may later regret, the Eclipse software can prompt for confirmation before continuing. In some cases, this can save the user from making a mistake and in other cases it can be annoying. This feature can be turned on or off for the following actions:

On Edit   When checked, makes the user tab or hit "enter" to move to the next field. No confirmation screen will be displayed.

On Delete   When deleting any data record.

On save of multiple updates

> When pressing the *Save* button on a screen where multiple changes have been made.

On revert of multiple updates

> When pressing the *Revert* button on a screen where multiple changes have been made.

On adding orders from matched kits

> When creating a new order where the order name matches the name of a kit. If this option is checked, Eclipse will prompt to see if the kit should be used as a base for the new order. If it is not checked, it will use the kit as a base automatically.

On overwrite of interim changes

> In multi-user installations, where two users have modified the same data record, if this option is checked, the Eclipse software will warn of this condition and allow the user to decide which data to accept. If the option is not checked, it will use the data of the last user to press the *Save* button.

On adding items for copied order

> When copying an order, Eclipse can either automatically copy items, or it can prompt to do so depending on whether or not this option is checked.

On adding punches for copied part

> When copying an part, Eclipse can either automatically copy punches, or it can prompt to do so depending on whether or not this option is checked.

Other "Update Check Boxes"

Auto-Add with down arrow

Enables the ability to "add" a new record by pressing the down arrow into a blank field.

Add items for copied order

When copying an order, this box enables all items from the original order to be included in the newly copied order.

Add punches for copied part

When copying a part, this box enables all punches from the original part to be included in the newly copied part.

Save all updates on closing forms

If this option is checked, Eclipse-Link will save all changes when the user exits a form without asking. By default, it prompts first to see if changes should be saved.

Assign number when adding coils

Automatically assigns the next incremented number for a coil number when entering a coil stock item into inventory, saving entry time.

Assign last material when adding coils

When enabled, automatically assigns the last material to the coil stock being entered into inventory, saving entry time.

Assign last material when adding orders

When enabled, automatically assigns the last used material to the new order being input to save entry time.

Assign last product code when adding orders

When enabled, automatically assigns the last used product code to the new order being input to save entry time.

General

The "General Settings" page contains several customizing selections that control the general use of the software.

Tables

Browse Tables

Enable Browse Tables form

If this option is checked, the browse table option under the Maintenance menu is enabled.

Enable updates with Browse Tables form

If this option is checked, it is possible to edit data in the browse table screen. In order to allow edits, it is necessary

to first obtain an authorization code from AMS Controls support staff. This code is good only for the day it is issued.

Clean Up Tables

Delete done orders after X days

After an order is completed for the specified number of days, it will be automatically deleted if this option is checked.

Delete temporary parts after X days

After a temporary part has been used and there are no items calling for that part number for the specified number of days, it will be automatically deleted if this option is checked. This is useful for operations where every part is considered unique. Without this feature, the parts library can quickly grow.

Delete shipment info after

Sets the number of days after a shipment is sent that the shipping information will be deleted.

Max setup instances / machine

Whenever there is a change to a setup parameter at an XL controller, Eclipse-Comm records the new setup parameters as an "instance". This options controls how many instances are saved (the oldest instances are dropped).

Max entries in Comm. Log

All communications between Eclipse-Comm and each controller are recorded in the communications log. This is a cycling log, where the oldest entry is replaced by the latest. This option sets how many entries are stored in the file. The default value is 7000. For some installations this may cover five or six hours while for others it may only handle one. The larger this value, the more disk space will be used.

Reports
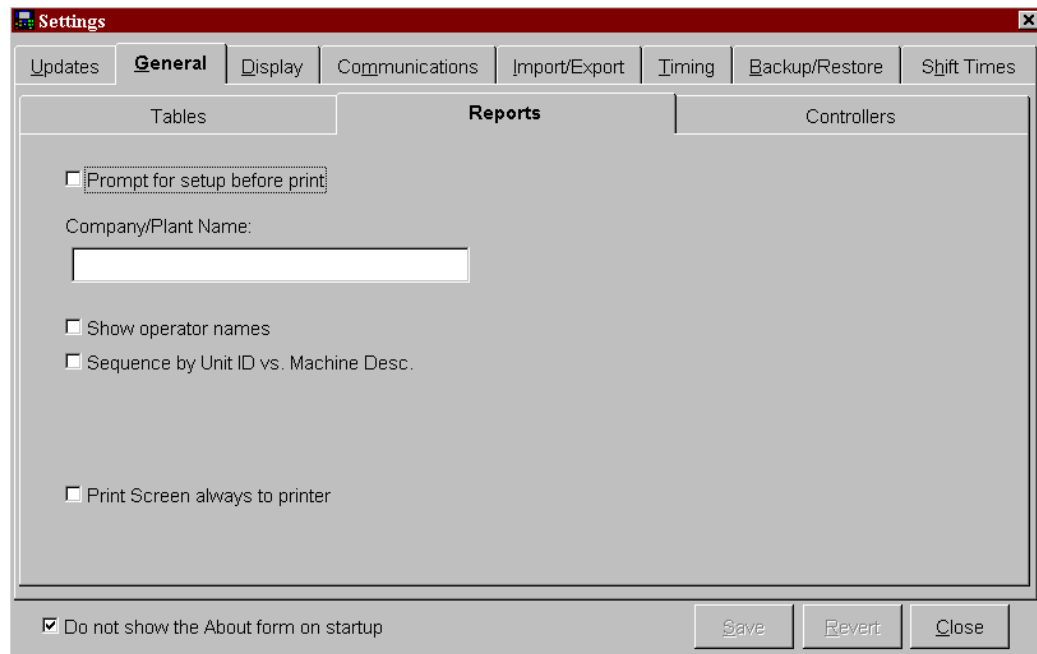
Prompt for setup before print

> The printer setup screen will appear every time a report is run if this option is checked. If it is not checked, it is still possible to get to the setup screen by pressing the *Setup* button in the print report dialog screen.

Company/Plant Name

> For companies that have several locations, it can become difficult for a central office to sort out which plant a given report is from. The company or plant name that is entered here will be printed on all reports thus preventing any confusion.

Show operator names

> If this option is checked, any report that shows employee information will also include the employee's full name. If it is not checked, only the employee number will be shown.

AMS CONTROLS

Sequence by Unit ID vs. Machine Description

This will change the sequence of the controllers as they are displayed in reports. Typically, the machines will be shown in the alphabetical order of the "machine descriptions" or nicknames. Checking this box will cause the reports to show them in order of the unit ID number.

Print Screen always to printer

This will cause the "print screen" key to print directly to the default printer instead of displaying the print report dialog screen.

Controllers

Carry last delay forward to end of shift

When checked, assigns all time from the last halt to the end of shift to the delay code selected in the "Scheduled Downtime Delay Code". The idle period between the last machine halt and the end of the shift can be handled in two different ways. The delay for that time can be associated with the last delay reason that was entered, or it can be set to the first delay recorded for the next shift. If this option is checked, Eclipse will use the former method. When using this option, the operator can scan a code such as "Clean up" when production is finished for the shift and not worry about having to scan the code at the very end of the shift time.

Scheduled Downtime Delay Code

The delay code to be used when the line is down for "scheduled downtime".

Verify coils when loaded

If this option is checked, Eclipse checks to make sure the material code for the new coil matches the material for the order being run. To use this feature, all coils must be entered into the Eclipse coil inventory.

If there is a mismatch, Eclipse will stop the machine and send an error message to the operator. Please note that it is possible for the operator to clear the message and resume production anyway. If this happens, it will be logged in the production errors report.

Log production errors

This will enable Eclipse to log production errors such at the example given previously on verifying coils. A production error would include using the wrong coil (see the Verify Coils option above), over-producing an item, etc. These errors can be viewed or printed from the "Production Errors" report.

Collect production data for reports

By default, Eclipse-Comm collects all production information from each XL controller. If this option is not checked, it will ignore this information. In installations where no reporting will be done, disabling the feature will speed up operation of Eclipse –Comm because it will not consume resources in order to collect production data for report information.

Collect coil data for reports

When processing production data from the XL controllers, Eclipse-Comm also compiles information about the coils used. If this option is not checked, it will skip this step, thus speeding up Eclipse-Comm by not consuming resources collecting coil data for report information.

Collect production data for shipping

Determines whether Eclipse will consume resources collecting production data for the purpose of shipping information.

Always create new pattern numbers

This checkbox selects whether Eclipse will scan the XL controllers for patterns that match new upcoming orders and use the existing pattern (saving controller memory) or if it will simply create a new pattern (saving download time).

XL Restricted Pattern Range

Normally, Eclipse-Comm uses the entire range of available pattern numbers when downloading items with punch patterns. In some cases, it may be helpful to set aside a range of numbers for orders that are manually entered at the controller by the operator without fear of it being deleted or overwritten. The restricted range is the starting and ending pattern number that Eclipse-Comm will not use when downloading patterns.

Reschedule orders after memory clear

If memory is cleared or is lost, Eclipse will automatically reschedule all orders that were previously at the controller before memory was lost (if the box is checked).

Disable controller messages

Will disable outgoing controller messages.

Enable Hole Counting

Enables Eclipse to create programs for Hole-counting applications. The XL controller that is associated with the orders must also have the "Hole Detect" option.

Enable send lists

XL controllers have the ability to store not only identification numbers for certain fields, but also text fields that include employee names, scrap codes, and delay codes. It is easier for an operator to pick from a text list than to memorize or lookup a coded number. Each of these fields can be individually enabled by checking them here.

Employee Numbers

Will enable the text list of "employees" to be downloaded to the XL controllers

Scrap Codes

Will enable the text list of "Scrap Codes" to be downloaded to the XL controller

Delay Codes

Will enable the text list of "Delay Codes" to be downloaded to the XL controller.

Display

"Displayed" items such as length formats and search fields can be customized to a company's requirements.

General

Length Format Type

This selection determines which format is used to display dimensional data. Note that any format can be used to enter data as long as the appropriate units are included. For example, even though the current length format is decimal inches, it is possible to enter a length as "200mm". Eclipse will automatically convert and redisplay this length in decimal inches. For non-length units such as weight, Eclipse will use either metric or imperial units depending on the length format.

Display Zoom

This controls the scaling of all Eclipse screens. If set to 100%, all screen are scaled as if the display was in 640 x 480 mode. This is beneficial to people with poor eyesight. If this is set to 0%, the screen will be shown in the correct

resolution. On higher resolution displays, this allows for more information to be shown on the screen.

Number of matches to show

When locating a part or order number, this number limits how many matches are displayed.

Locate Part number

Minimum digits for search

The minimum number of characters that must be entered on the "Locate Part" screen before Eclipse starts to look for a match. If this number is too small, it will take a while to enter characters. The "matches" dropdown list gets refreshed with each character typed in after the "minimum characters for search" has been met.

Location in string to accept match

This can be either the "Beginning" of or "Anywhere" in the part number.

Locate Order number

Minimum characters for search

The minimum number of characters that must be entered on the "Locate Order" screen before Eclipse starts to look for a match. **If this number is too small, it will take a while to enter characters.** The "matches" dropdown list gets refreshed with each character typed in after the "minimum characters for search" has been met.

Location in string to accept match

This can be either the "Beginning" of or "Anywhere" in the order number.

Locate Dates

Number of prior years

When selecting from a list of dates, this number determines how many years to display.

__Main__
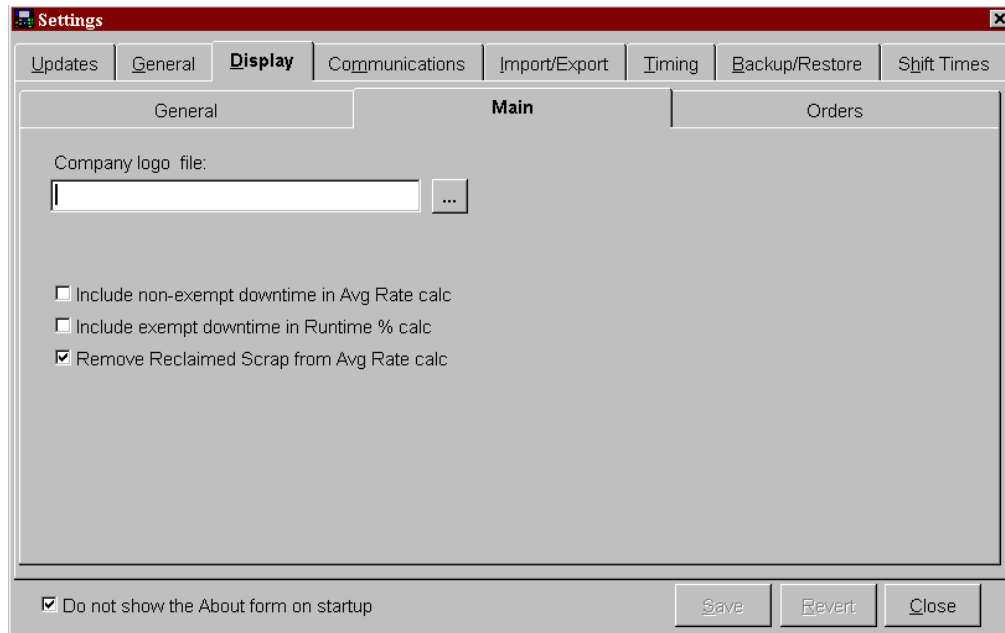
Company logo file

A bitmap image can be displayed on the main status screen of Eclipse-Link. This could be a company logo, motivational symbol, or other design. Press the browse ' …' button under "Company Log File" to select the graphic desired graphic file.
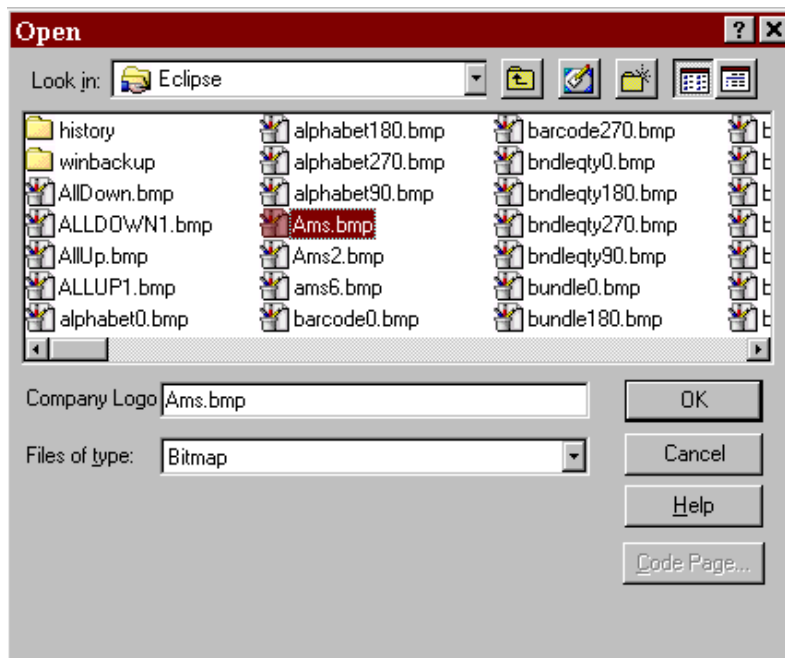
Highlight the desired file and select it. The selection will now be displayed in the text box under the "Company Logo File" label. Click on the "Save" command button to apply this selection for the "Main Status Screen" logo.
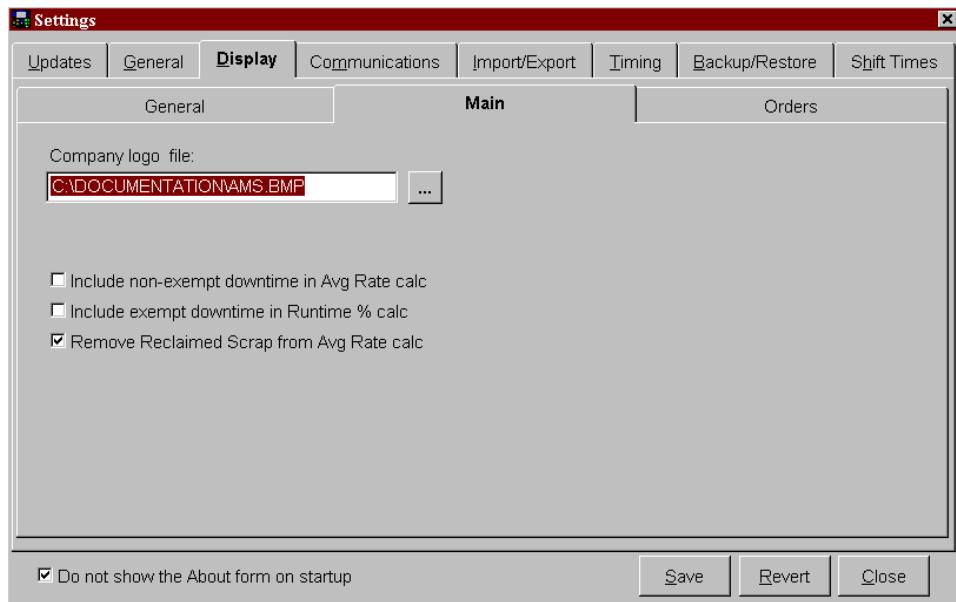
The graphic represented by the contents of the selected "BMP" file will be placed in the upper right hand corner of the main status screen.
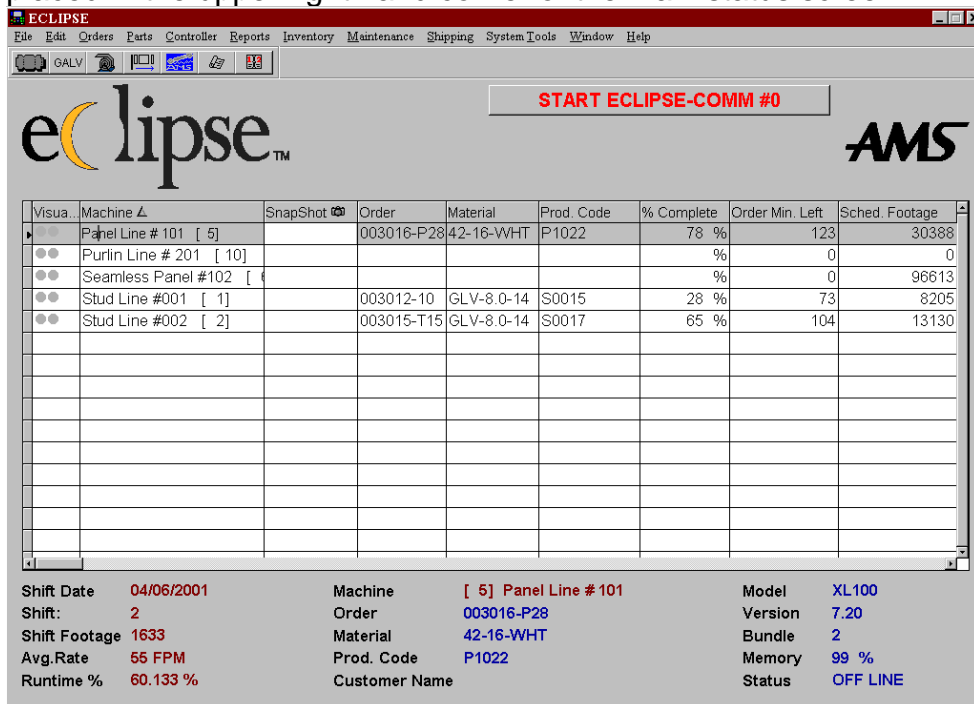
Include non-exempt downtime in Avg Rate calc

Checking this box will cause non-exempt downtimes to be calculated in the Average Rate shown on the Main Status screen.

Include exempt downtime in Runtime % calc

Exempt downtime will be calculated in the Runtime Percentage for the main status screen when this box is enabled.

Remove Reclaimed scrap from Avg Rate calc

Reclaimed scrap is removed from the calculation of the "Average Rate" on the main status screen.

Order Edit

Delete Temporary Parts when deleting Order

This deletes all temporary parts associated with a deleted order.

Focus to page from Schedule form

Selects the default page that is displayed upon entering the "Order Edit" screen from the schedule orders screen.

Schedule Orders

Enable Delete Done Orders

Enable the "Delete" selection in the "Schedule Orders" screen.

Copies of schedule prints

When the scheduled and sequenced orders are printed, multiple copies can be produced. The number entered in this field will produce the specified number of copies.

Communications

"Communication" settings include the selection of the computer's communication port and the speed of communication.
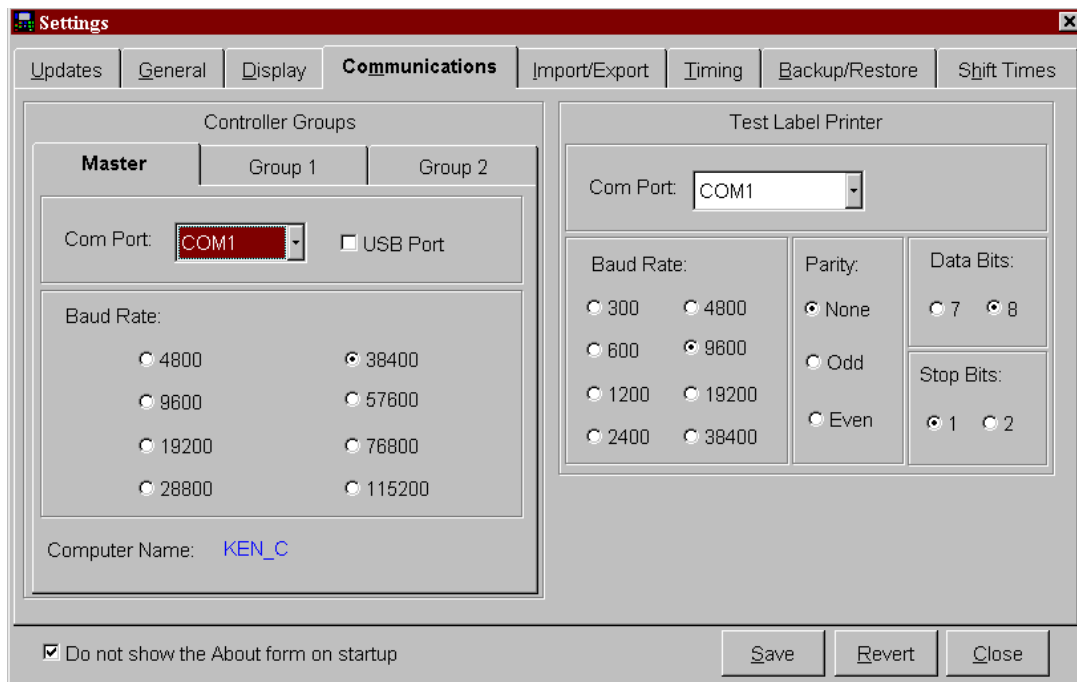
Note: The baud rate, data bits, stop bits, and parity of each XL controller must match what is programmed on this screen. Communication between Eclipse and the XL controllers will not occur if there are any differences.

Controller Groups

Eclipse can support up to three entire controller groups. This would consist of three Eclipse-Comm packages running up to 30 controllers each. All three of the systems may have a common database. Settings for the communications of each communication link are:

- Parity   Even
- Data bits: 8

- Stop bits: 1

Select the appropriate tab for the specific controller group and select the com port and baud rate.

"Master", "Group 1", "Group 2"

Each tab contains the following communication parameters within it.

Com Port

Selects the PC's communications port that is dedicated to Eclipse-Comm. Available selections are Com ports 1 through 4.

USB Port

This box should be checked if the communication port being used to interface the Eclipse pc to the XL controller is a USB port.

Baud Rate

Selects the baud rate. At 9600 baud, RS485 cabling can be used at up to 4000 feet total cable length. As the baud rate is increased, the total length of the cable is limited. Communication errors may result if the baud rate is too high due to variable conditions including the length of the cable, quality of connections, and the environment in which the communication cable is run. If this occurs, Eclipse-Comm will start showing a variety of communication errors.

Test Label Printer

This contains the port settings in order to send the Eclipse print message (sample labels) to a printer directly connected to a PC.

Com Port	Selects the PC's communications port that is allotted as a production printer test port. Available selections are Com ports 1 through 4.
Baud Rate	Selects the communication baud rate.
Data bits	Selects either 7 or 8 data bits.
Stop bits	Selects either 1 or 2 stop bits.
Parity	Selects either Even, Odd, or No parity. This is used for error-checking transmissions.

Import/Export

The "**Import / Export**" page has all settings relating to the files that Eclipse-Comm automatically imports from or exports to. This page will set the directory paths for locating and operating with these files. For specifications on the various file formats used, please see Appendix B.
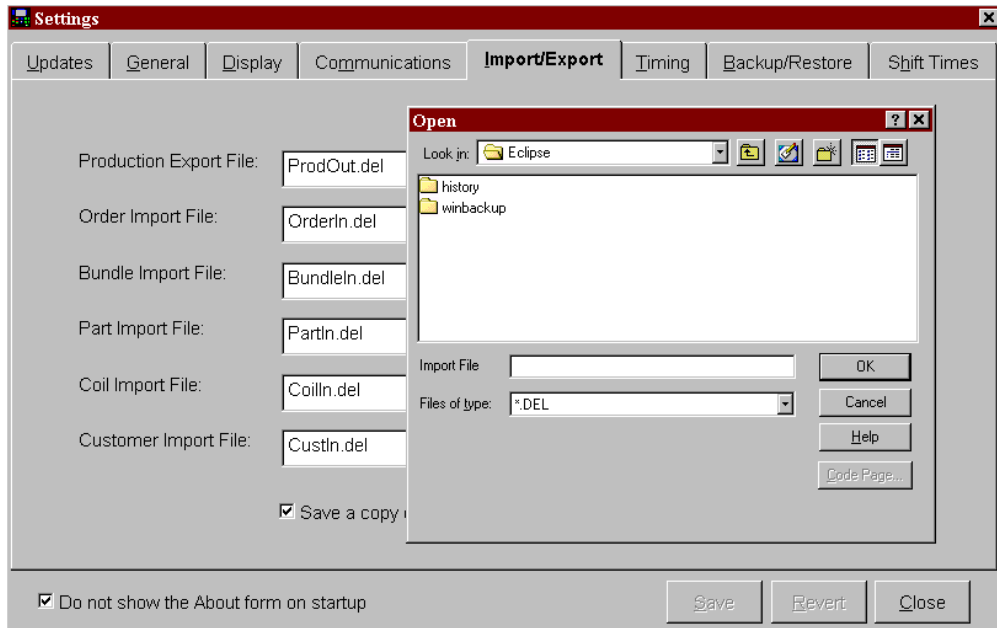
Production Export File

Specifies the name and path for the production export file. This file contains production event data that is returned from all controllers. When Eclipse-Comm sees that this file no longer exists in the specified directory, it copies all of the data from its internal buffer to this file. Any other software that reads in this data should delete the file when finished.

Use Export File

This option controls whether or not the production export file will be created.

Order Import File

Specifies the name and path of the order input file. This file is used to import order and item data. Eclipse-Comm automatically scans the specified directory for this file name. If it finds it, it reads in the contents and deletes the file.

Append Orders

This option controls whether Eclipse-Comm appends items with the same order, material, and product code or replaces it with the new data. For example, if an order already existed with order = 'ABC', material = 'Red 20 ga' and product code = 'R Panel', and an order file is imported with items with the same order/material/product code, Eclipse-Comm will either add the new items to the existing order or erase the order and replace it with the new data.

Bundle Import File

Specifies the name and path of the bundle import file. This file is used to import bundle and order used-defined fields. The bundle import file should be presented at the same time as the order input file.

Part Import File

Specifies the name and path of the part import file. This file contains all punching information for new parts.

Coil Import File

Specifies the name and path of the coil import file. This file is used to populate the coil inventory.

Customer import File

Specifies the name and path of the customer information file. This file populates items related to customer information.

Save a copy of all import files in the Windows Temp directory

Saves a copy of all imported files in the Windows Temp directory. The files are renamed to a date/time code with an extension that reflects the type of file. For example, order input files would have an extension of "ORD".

Note: All but the "Production Export" file support the use of the (*) and (?) wildcards.

Timing

The "Timing" page defines how often Eclipse performs various functions and if the function is enabled.

Timing Settings

Time between Status Checks

This controls how often Eclipse-Comm requests status information from each controller.

Time between Screen Refreshes

This tells Eclipse how frequently to update the main status and certain other production-related screens. Since Eclipse-Comm or other users can change data in a background mode (while other programs are running), it is helpful to occasionally refresh the screen with current data. This number should not be set too low as it may cause the system to slow down in order to refresh the screen too frequently.

Tolerance for controller clocks

For accurate reporting of time information, it is very important that the date & time clock on all controllers be reasonably synchronized. This setting determines how far the clock on a controller can drift from the PC's time before being corrected.

Pack and re-index all tables

It is possible to have the Eclipse-Comm software automatically pack deleted records and re-index all files. This will occur every day at the specified time if the option is enabled.

Do it at:

This is the time at which the databases will be packed. A time frame such as late at night or early morning is desirable. While this process is occurring, all other Eclipse activity is locked out.

Import

How often Eclipse-Comm looks for files to import.

Check for off-line controllers

Once a controller fails four times in a row to respond to Eclipse-Comm, it is declared off-line. Little time is wasted trying to communicate with a controller that has been turned off, etc. This setting controls how often Eclipse-Comm tries to communicate with controllers that have been declared off-line to see their power has been restored.

Check for orders to auto-delete

After an order has been completed for a specified number of days, Eclipse-Comm will automatically delete it from the system. This setting determines how often Eclipse-Comm looks for completed orders to delete.

Send scheduled orders

Orders can be scheduled to download to a controller on a particular date and time. This setting controls how often Eclipse-Comm looks for orders ready to be sent.

Update footage left value

These settings controls how often Eclipse-Comm updates the footage left values on the Eclipse status screen.

Remove obsolete patterns

Patterns that are no longer needed by any items are automatically deleted by Eclipse-Comm. This setting determines how often this occurs.

Remove obsolete parts

Temporary parts are deleted after last being used when a particular number of days have elapsed. The corresponding setting controls how often Eclipse-Comm looks for these temporary parts.

Remove Shipped Orders

Orders that are shipped will be deleted after the time selected.

Backup/Restore

All settings in Eclipse and Eclipse-Comm are saved in the Windows registry or in XLWin.INI. When moving the Eclipse installation from one PC to another, or when making backup copies of the software, it is useful to save all of the settings in one file. This screen provides a means to save all settings in a single file as well as the restoration of settings from a file.
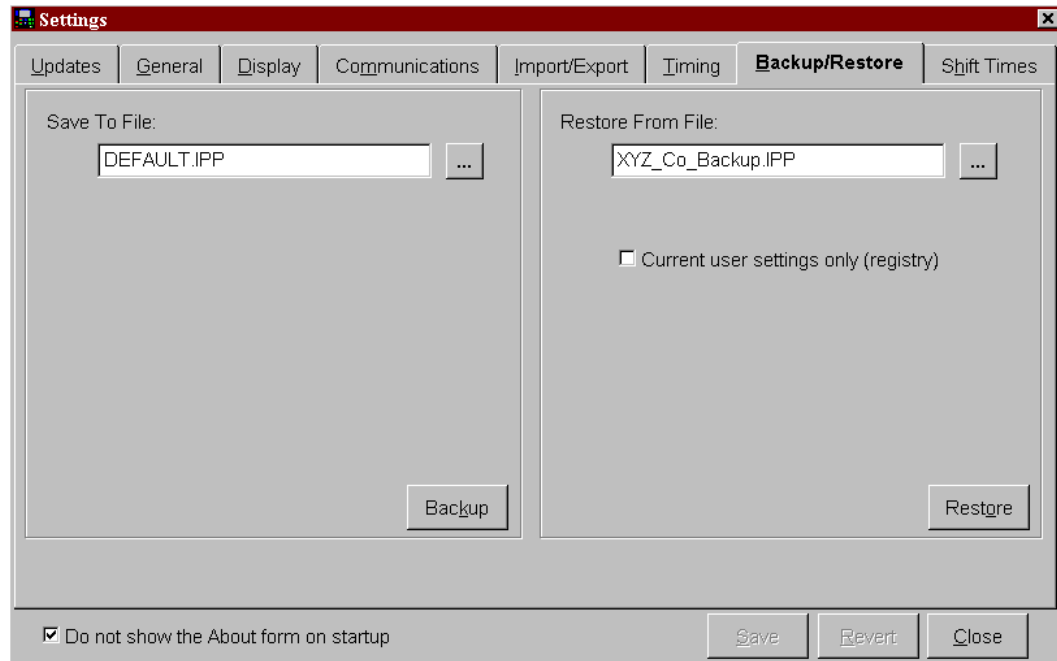
Save to File

> Clicking on the "…" button will enable the user to select a file to save the settings in.
>
> Click on the "Backup" Window's button to cause these files to be backed up to the selected file name.

Restore from File

> Clicking on the "…" button will enable the user to select the file from which to retrieve the saved settings from.
>
> Click on the "Restore" Window's button to cause these settings to be restored from the selected backup file.

Shift Times

As explained in the Machine Definitions screen, each machine can be configured to follow a default shift schedule. This screen defines the default shift times for the system. Any changes made here are automatically updated in any machine that has the Default Time box checked.

Default Shift Times

Each machine can have its own shift times. Shift times are used to organize production data for reporting. A maximum of three shifts can be defined per machine. Times are specified in 24-hour time. The first shift for a day can start the previous night. Likewise, the last shift can end the next morning provided the total time for the shifts equals 24 hours.

Shift times apply to all days in the week. Shift times can also be specified with the graphical time-line at the bottom of the screen. Each shift has a slider-bar that can be moved with

the mouse. The left and right arrow keys can also be used for fine adjustments to the shift times.

Each individual machine can have its shift times set either individually or set to the plant-wide default, this screen controls the plant-wide default shift times. If the default time is changed, all machines with the default box checked in the "Machine Definitions" screen will be update to match.

System Tools

Eclipse software includes a number of special tools to assist the user in the care and maintenance of the system.
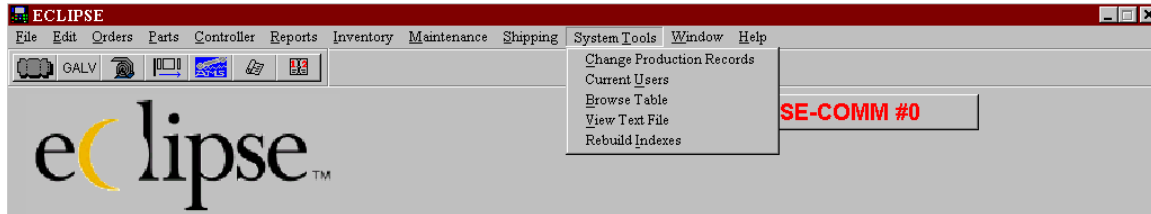
Among the features is the ability to correct records in production history files, the ability to browse and modify databases, the ability to view text files from within Eclipse, the ability to track who is utilizing the various Eclipse subsystems, and the ability to rebuild the database.

To begin, select "System Tools" from the tool bar on the main status screen.

Change Production Records

Sometimes it is necessary to edit existing production records. This could result from the loss of data created by a downed computer system or communication link. It could also be due to inaccurate information being entered at the XL-controller.

Production Dates

Date-Shift

Selects the Date and shifts of the production records that the user wishes to view and/or edit.

Folder

The user may desire to modify "existing" records or simply "add" new records. When selecting a folder, the date-shift grid list is refreshed to show the history files available in the folder.

If "**Append new dates**" is checked the files found in the new folder will be added to the list of files already on the grid-list.

Browse (…)

The browse button will allow the user to locate the desired history files.

Date
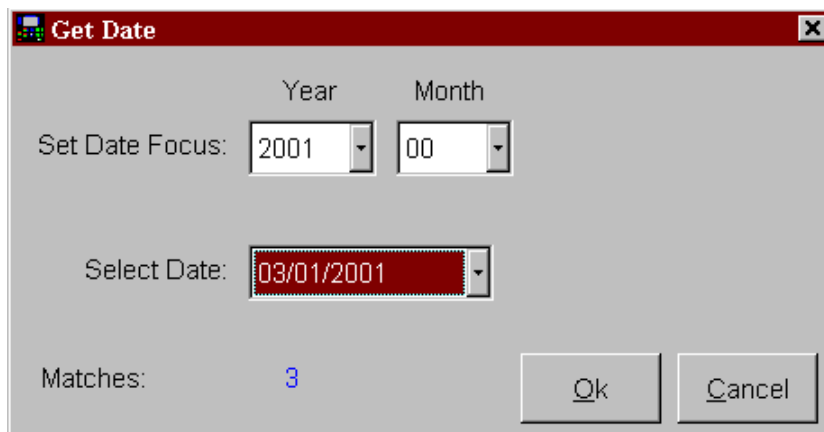
As an alternate to locating the desired date from the list grid, the user can simply type in the desired date of the respective records in this field

Shift selection (1, 2, or 3)

Selects history files according to the shifts that are selected.

Locate Date

The locate date will prompt the user with a display to search for the desired date of the records in question. It provides a convenient means to locate specific history files by narrowing down the timeframe of the occurrence.

Locate Time

Similar to the "Locate Date" above, this will enable the user to narrow down the time of the occurrences in question to a specific time slot. This feature is enabled after a history file has been opened.

History Records (2)

History records can be changed to create an accurate archive. Each history record has several fields that can be modified and edited. These are listed below.

"History Records" Table Column Description

Machine   This is the specific machine as labeled by its actual name or in-house designation ("nickname"). (Read Only)

Date   This is the date of production for present records being viewed. (Read Only)

Time   This will reflect the time of each production record. (Read Only)

Type   This is the "type" of message that was sent. This reflects the type of record that was sent from the XL controller. The communication string from the controller has letter designators to describe a specific event. For example, an "H" means that the line was halted; an "X" means that the quantity was incremented. (Read Only)

Reason	This explains the definition of the type code. (Read Only)
Scrap Code	The scrap code number
Scrap Reason	This is the actual description of the reason for the scrap. This defines what the scrap code stands for.
Footage	The accumulated footage for a particular record
Employee ID	The identification number of the employee last logged at the time of the record.
Employee Name	The name of the employee last logged at the time of the record
Delay Code	The delay code assigned to the record (if included)
Delay Reason	The listed delay reason reported for the record (if included)
Downtime	The amount of downtime reported on this record.
Changed	Assigned status that signifies a record has been manually changed.
Changed Date	Displays the date that the record was changed.
Changed by	Displays who changed the record by who was logged on to windows when the change was made.
Change #	Displays the Assigned sequenced number to the change.

Filter Field

The "Filters" page will set up the history records to be displayed in the "History Records" screen. The history records can be filtered (selected) by choosing only record dates with specific attributes. In the example screen above, only records with a product code of "S0017" or "S0015" will be displayed on the "History Records" screen, and only on Machine's #1 and #2. This narrows down the amount of data that must be viewed by the user and expedites locating the desired files.

To select criteria to filter by

> ➢ Select the attribute you wish to filter by in the "Filter Field" column in the data table. More than one field can be selected to be included in the filtering scheme, but each field must be selected one at a time.

> ➢ Once a field is selected, click on the "Select" command button located to the right of the data field. This will bring up a new window called "Select Values for Filter".

- A list of choices will be given on the left-hand side of the screen. These are the available selections for the specific machine that the filter is being set up for.

- Select your choice(s) by highlighting the specific values you wish to filter by.
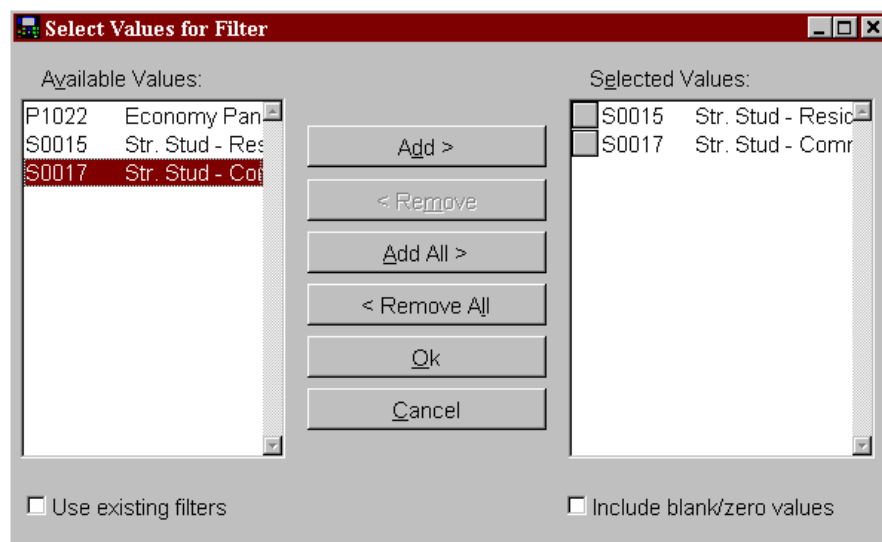
- Once highlighted, click on the "Add" button. This will add the selected values to the right-hand side of the screen for selected filters. If all on the left-hand side are desired, then click on "Add All". Likewise, "Remove" and "Remove All" can delete a single value or all from the filtered section.

- Once the selections are made and the user is satisfied, click "OK" to apply the filters. If the user does not desire to keep the filters as they are, then clicking on "Cancel" will close the screen without making any changes. The selections that were just made will not apply.

Clear

Click on the "Clear" command button to clear the highlighted Field selections.

Current Users

With multi-user installations, it may be necessary to have all users exit the software in order to upgrade, rebuild indexes, etc. The Current Users screen shows a list of all users with their status.
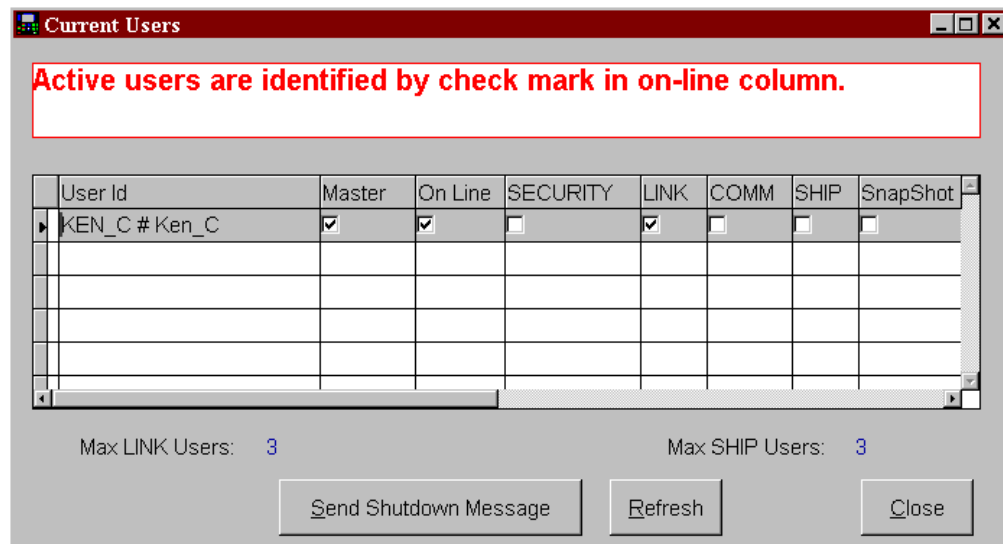
The master user (only) has the *{Send Shutdown Message}* button enabled. By activating this button, messages are sent to all current users requesting that they exit the software.

If an idle user has ignored the message for longer than ten minutes, their copy of Eclipse will automatically shut down. (This is useful when the user in question has gone home for the day, but locked and the office/PC is not accessible.)

This window is effective in informing the "Master" as to who is using the program and in what manner. See below a brief description of each checkbox on the screen.

"Current Users" Column Descriptions

User ID The assigned identification consisting of the user's PC name and logon name.

Master Computer designated as the "Master User". There should be only one computer with this designation.

On-Line Indicates if the user is currently running one of the Eclipse subsystems.

Security This box is checked if it is running the security module (XLSecurity.exe).

Eclipse This box is checked if a specific node-user is running Eclipse (XLLink.exe).

Comm This box is checked if the specific node-user is running Eclipse-Comm (XLComm.exe).

Ship This box is checked if the user is running the stand-alone Eclipse-Ship program (XLShip.exe).

Snapshot This box is checked if the user is running the stand-alone Eclipse-Snapshot program (XLGraph.exe).

Browse Table

The browse table screen is used to view the raw data contained in the Eclipse database tables. To select a table, press the button labeled (…) to the right of the currently selected file name. This will open a new screen where the file and directory name can be chosen.
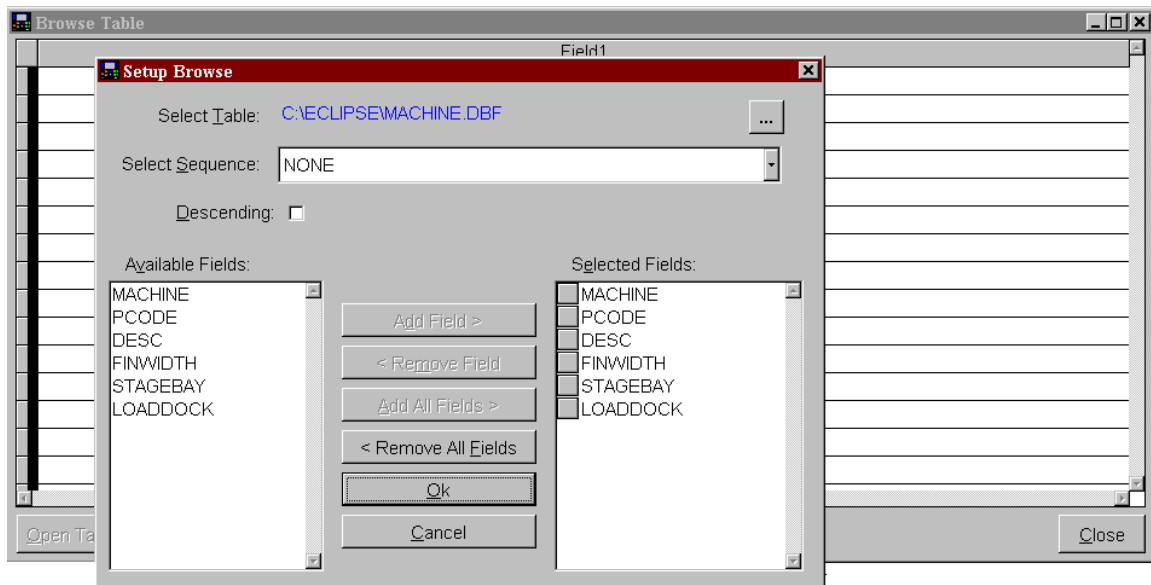
In some cases, it is not necessary to see every field in the table. By using the *Add Field* and *Remove Field* buttons, one can select the fields to view and the order they are displayed
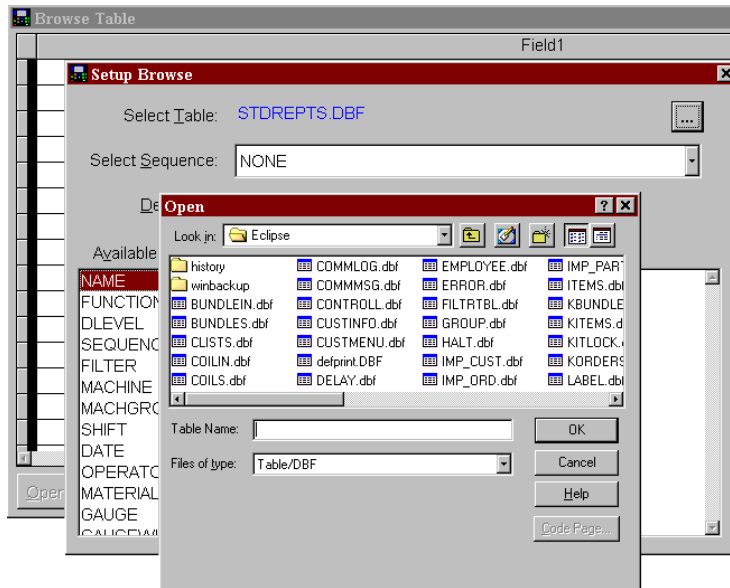
Press the *Ok* button to view the data.

Once the table is selected, it is possible to select the sort order of the data with the sequence drop-down list.

Please note that this data is read-only and cannot be modified in this screen.

To view another data table, press the *Open Table* button.

View Text File

The "View Text File" screen is a convenient way to open and view various text files.

To view the file, select the file and directory name and press the *Select* button.

The following is an example of a text file:
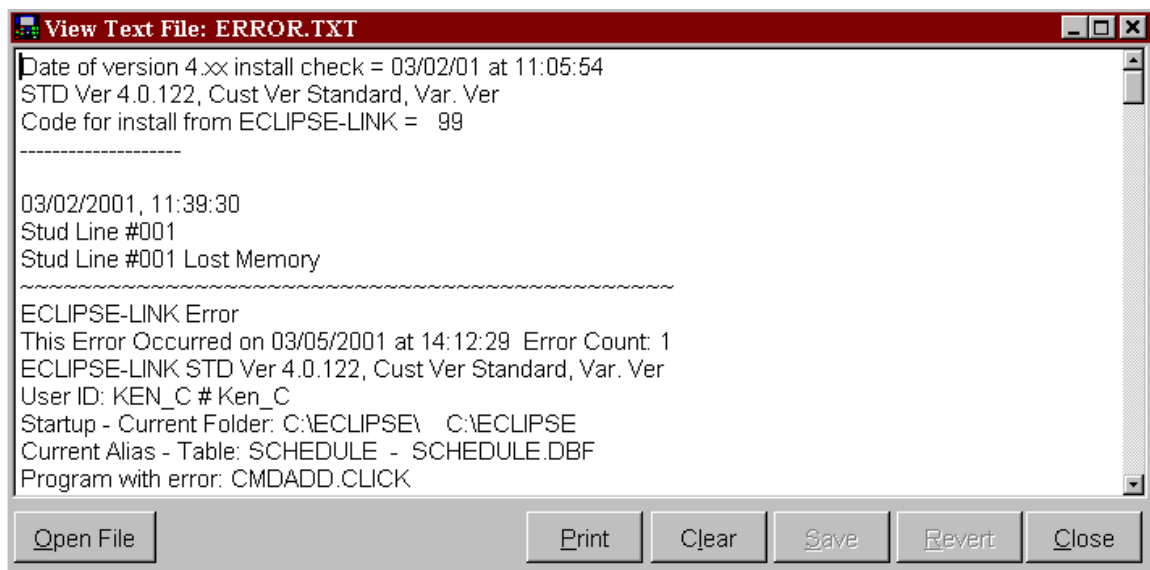
Note: Most system error messages refer to the ERROR.txt file (shown above). This screen provides a means to access the details of error messages during conversations with AMS Controls representatives.

Rebuild Indexes

Occasionally, it is necessary to update the index files used by the Eclipse-Link software. Usually, the only time this needs to be accomplished is for database correction after getting a corrupted database or by the direction of AMS Controls technical support staff. This function will repair or recreate damaged files as well as reconstructing indexes.

!To prevent any file conflicts, this operation shuts down the Eclipse and Eclipse-Comm software before starting!

When choosing this option from the "System Tools" menu, the following prompt is displayed:
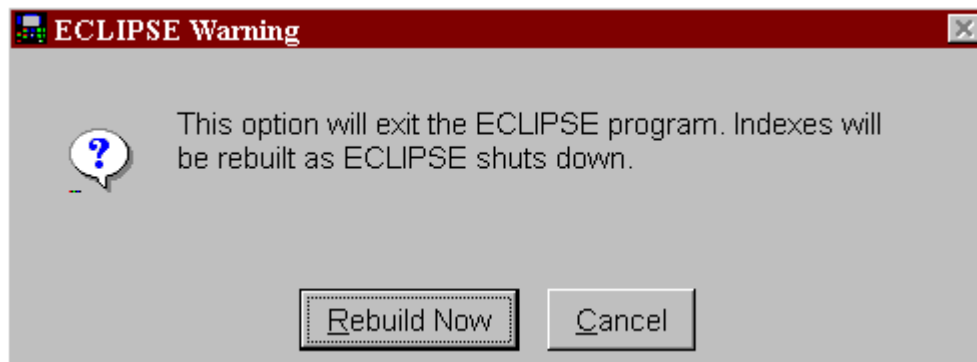
Pressing the Rebuild Now button starts the operation. While processing, the current file name and percentage complete are displayed.
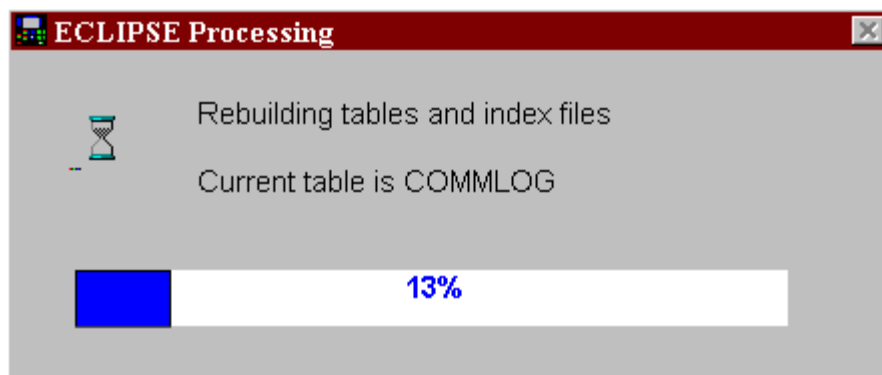
Note: If a database file was missing or deleted, the rebuild index option will create a blank copy of the missing file.

Help

Eclipse software comes with a help menu that contains items to assist the user in everyday tasks. Information regarding the Eclipse software can also be accessed through the "About" selection.

Help may be initiated by pressing the "F1" function key or by selecting the "Help" command bar from the main status screen.

Help

This selection will pull up the Eclipse help menu. Pressing F1 will open this menu as well.

Toolbar

This selection will enable (or disable) an ICON toolbar. The toolbar will display a variety of icons. These will serve as shortcuts to specific screens such as "Orders", "Coil inventory", "Parts", and others. Set your mouse pointer on any of the icons and it will display the shortcut is on your screen.

"Tool Bar"
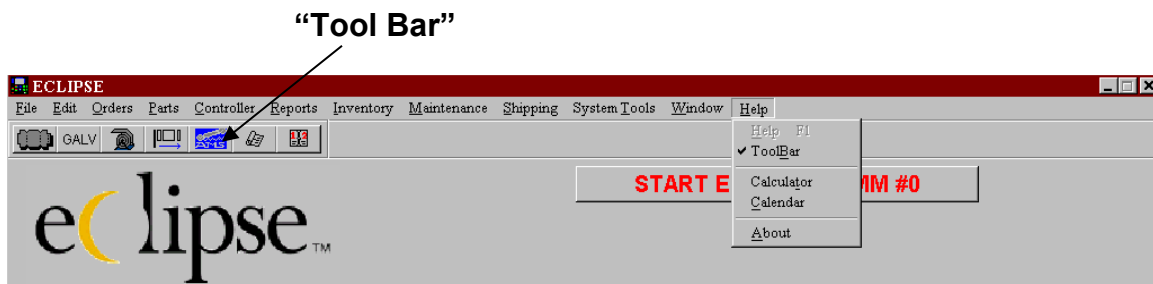
Calculator

For user convenience, Eclipse supplies access to the "Window's" calculator. Select "Calculator" from the Help drop menu and the calculator will appear on your screen. Close the window by selecting the (X) on the window's title bar.
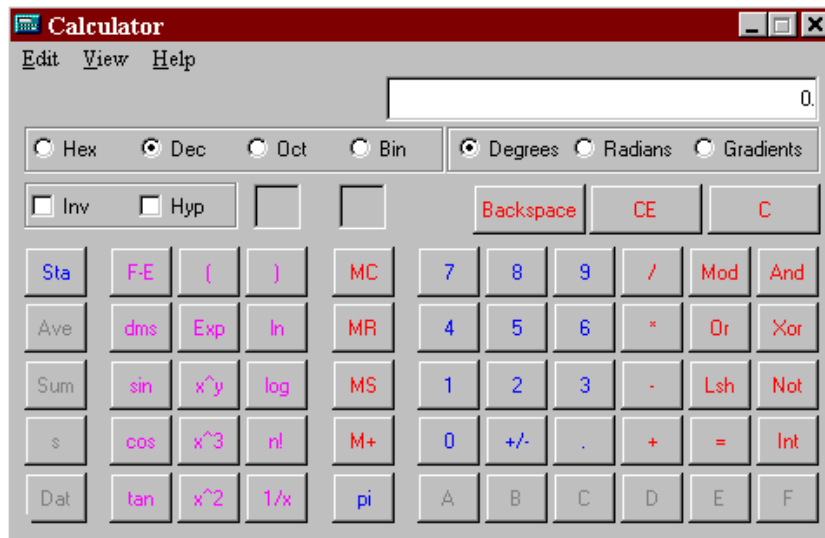
Calendar

An ongoing calendar is also supplied. Select "Calendar" from the menu a calendar window will appear. Close the window by clicking the (X) on the title bar.

About

The About window displays information concerning the installed versions of each software module and what options have been activated.

ECLIPSE

AMS CONTROLS INC.

ECLIPSE 4.0.124
ECLIPSE-COMM 4.0.124
ECLIPSE-SHIP 4.0.124
Standard

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St. Louis MO 63043
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eclipse@amscontrols.com

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Options:
Punch Programming
Kits
Custom Menus
Bar Codes
Multi-user with 3 additional users
Production Tracking
Coil Management
Import/Export Data
Custom Label Design
Shipping with 3 users
Multi-COMM's with 2 additional running

☑ Don't show on startup   Close

AMS CONTROLS

Eclipse Sub-Systems

Eclipse software consists of multiple stand-alone programs. Some of these programs are purchased as options when ordering the customized package. Among the programs that are included with Eclipse is Eclipse-Comm. This is the communication portion of Eclipse that links the PC to the controller(s) on the factory floor.

Eclipse-Comm

Eclipse-Comm can be started by multiple methods:

- Through the "Start" menu of the windows screen. Select "Programs" from the "Start" menu. Locate and highlight the "AMS Eclipse" program header. Eclipse and Eclipse-Comm will be displayed. Select Eclipse-Comm and press enter or just double-click on the icon.

- Eclipse-Comm can also be started from the Main Status Screen of Eclipse.

   a. By clicking the "Start Eclipse-Comm" command button in the upper right hand side of the Main Status screen

   b. By selecting the "Eclipse-Comm" Icon from the Main Status Screen toolbar.

   c. By right-clicking open areas of the Main Status screen and selecting "Eclipse-Comm" from the menu list.

The main screen for Eclipse-Comm contains a "Status" display box at the top, a "Transmission" display box, and a "Receive" display box. These provide a means for the user to see what is being communicated between the pc and the controllers.

"Status" Display   **"Transmission" to Controller**
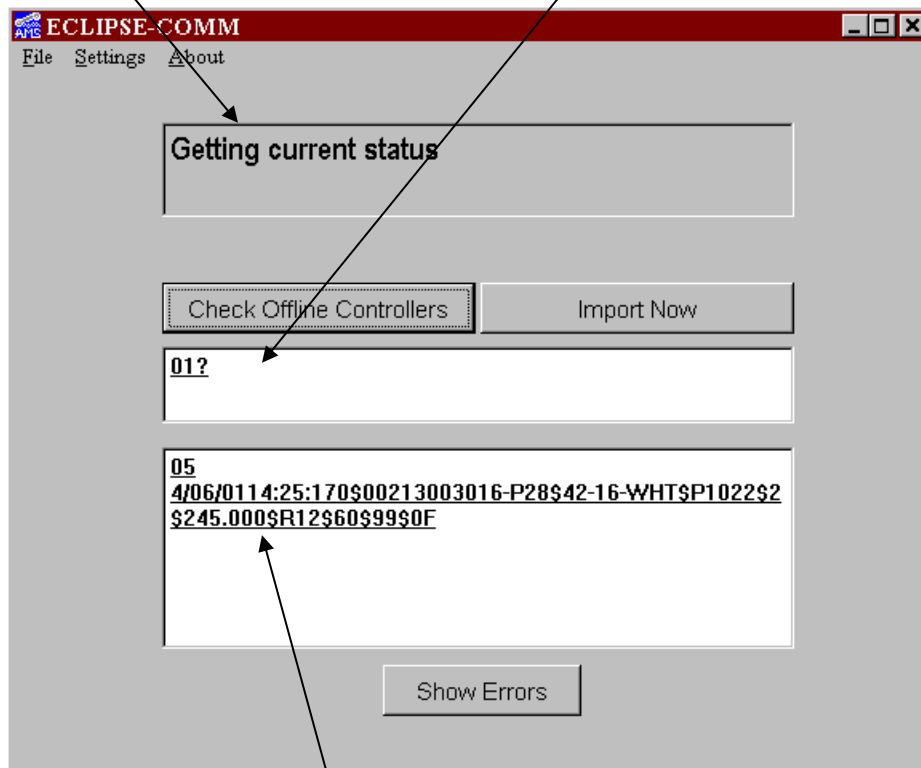
Data "Received" back from controller

The status box gives a brief description of what type of data is being handled. The transmission box shows what data is being sent by the pc. The receive box shows data coming in from the controllers.

The example above shows the pc requesting the "Current Status" of machine number 1. The status box displays the transmissions in "plain English" so that the user does not have to understand the transmission codes. The "01?" located in the transmission display is the method by which the pc asks the controller what its status is. The "Receive" display shows the response from the controller. Some of the transmitted data may be distinguishable such as the date and time of the record.

The screen contains three menu tools (File, Settings, and About) and three command buttons (Check Offline Controllers, Import Now, and Show Errors).

File

Select "File" from the window tool menu. "Upgrade EPROM" and "Exit" are within this selection list

Upgrade EPROM

XL200 and XL100-Version 10.XX series controllers have an upload feature that enables a user to upgrade the controller's software through Eclipse-Comm communications. Older control systems required that an EPROM chip with the imprinted program be exchanged for a new one. Begin by setting Switch # 10 on the XL200 controller to "ON". This puts the controller into a file transfer mode that will allow the overwriting of the existing program.

Select "UPGRADE" EPROM from the File menu. The following screen will be displayed. Eclipse comm. can detect the baud rate of the controller by using the "Auto" baud rate feature. This setting may also be chosen by setting the baud rate as indicated. The user may "cancel" the upgrade at this point or proceed by selecting "Continue".
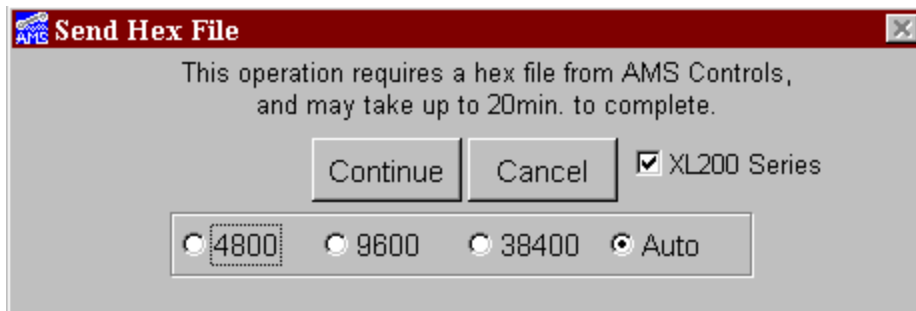
Eclipse will display a short message that a new hex file from AMS will be required and warns that the upgrade may take as long as 20 minutes to complete.
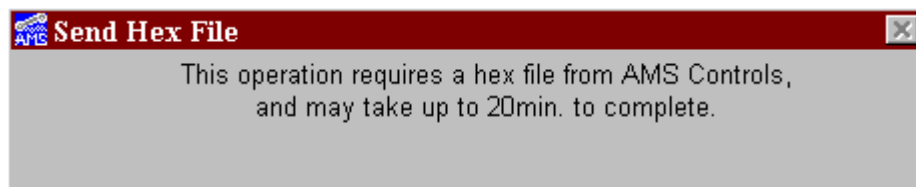
Eclipse will then check the existing controller to verify what version software is presently loaded and what options are presently available on the controller. If the options in the hex file do not match what is presently installed in the controller, an error will be posted and the download will be halted.

Once the controller's model and options have been verified, the user will be prompted for what file to download to the controller. Select the upgrade file by double-clicking it or by highlighting the file and clicking on the "Open" command button.
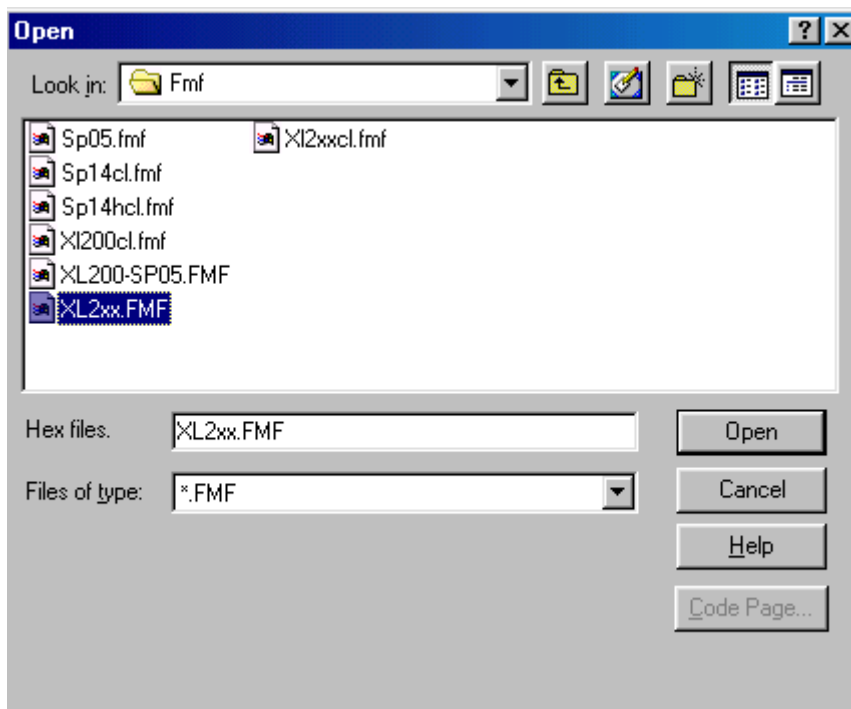
Once the version and options are verified, the new program will be downloaded to the XL controller. The status of the download will be displayed on the screen.
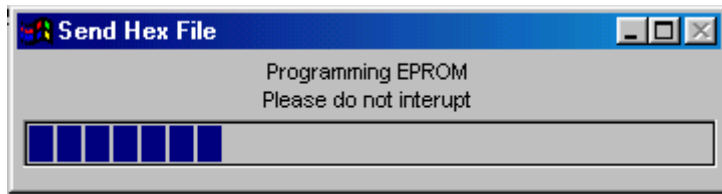
A window explaining that the "Flash Memory Programming is Complete" will be displayed upon completion of the download.
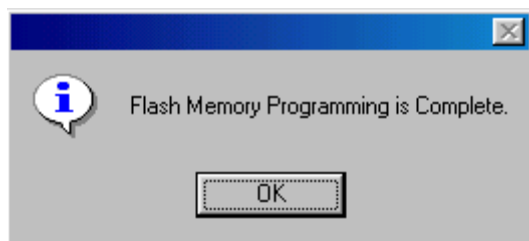
Turn switch #10 on the controller's type-setting dipswitches back to the "Off" position and reapply power to the controller. The controller will reboot with the new software. Once the controller has rebooted, the controller's setup parameters will need to be downloaded to the controller. This may also occur automatically if enabled to do so in the "Settings" selection of the Eclipse "Maintenance" menu.

Settings

Serial Communications

The "Settings" selection allows the user to setup the communication port that Eclipse will use to interface to the XL-series controllers.

The following example shows that the communication port and the baud rate. Each is selectable from a range of choices
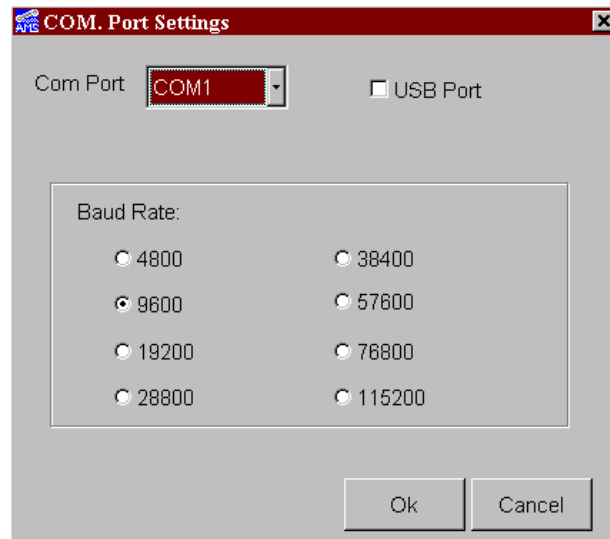
Polling

The "Polling" window allows the user to limit the frequency that Eclipse checks (Polls) the status of each controller. Setting a larger number in this entry may allow for more processing time when using Eclipse or programs other than Eclipse.
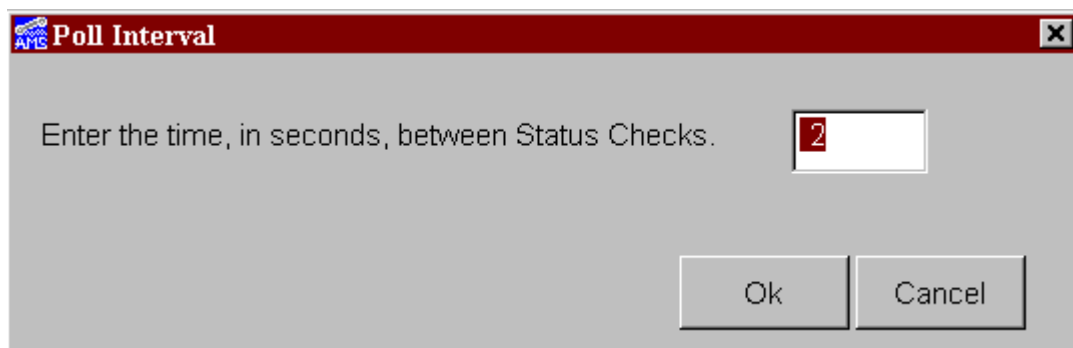
Comm Stats

"Communication Status" will add an additional display to the bottom of the main status page. This will display additional communication information that is helpful as a diagnostic tool.

Unit "#"	Displays which XL controller the communication stats are in regard to. Clicking on this box will cause the unit number to increment to the next online controller.
Good	Shows the number of good transmissions sent and the percentage of good transmissions overall.
No Response	Displays the number of "no responses" from the XL controllers and the percentage compared to all received communications
Bad	Displays the number of bad transmissions sent and the percentage of bad transmissions overall.
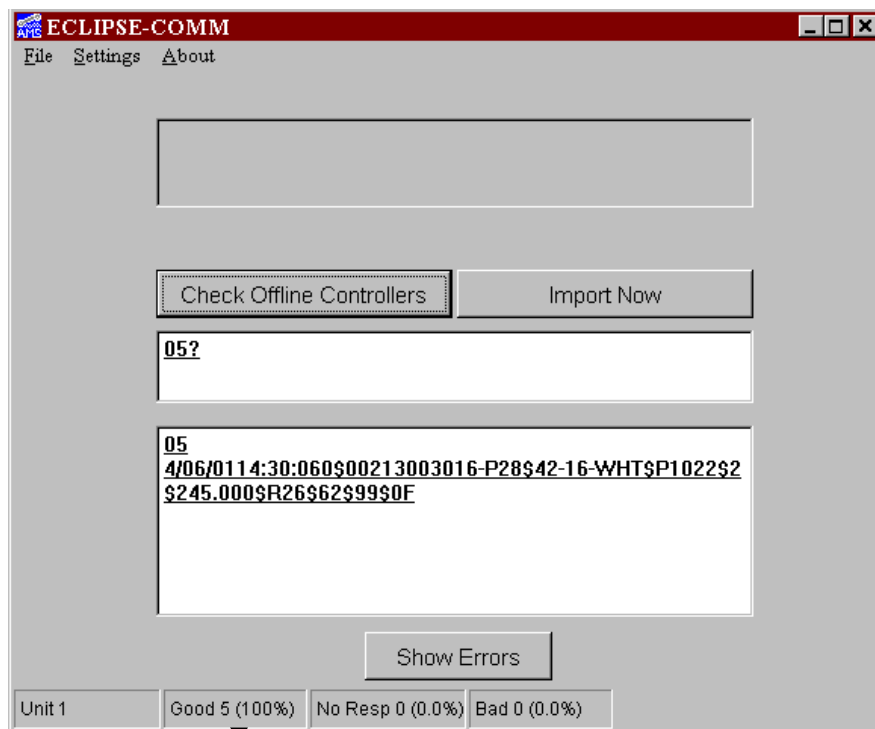
Communication Diagnostics

Toggle Comm View

The "Toggle Comm View" selection will hide the "Transmission" and "Received" communication displays when selected. Only the "Status" will be displayed. Selecting "Toggle Comm View" a second time will cause the displays to be shown again.

The example below shows the main screen shown without the two communications displays.
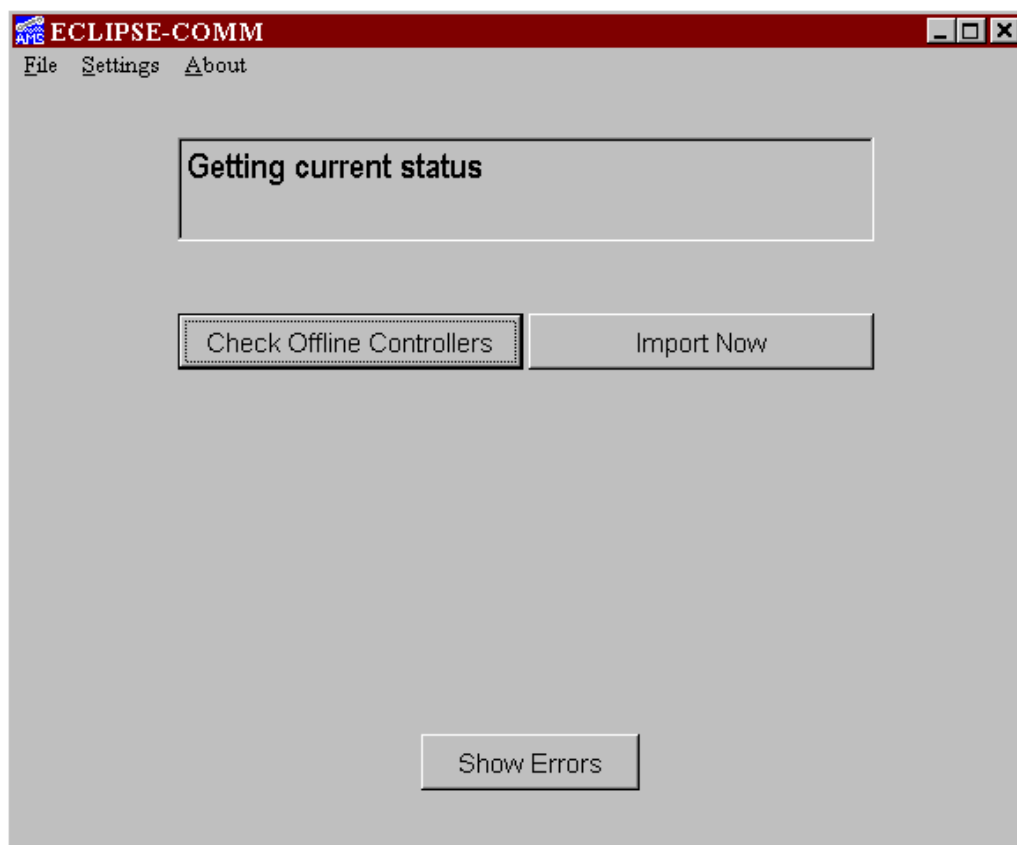
About

Eclipse-Comm has an "About" screen that will display the installed version of Eclipse, Eclipse-Comm and all sub-systems. The user to whom is was issued and activated options are included as well.

ECLIPSE-Comm
AMS CONTROLS INC.

ECLIPSE 4.0.127
ECLIPSE-COMM 4.0.126
ECLIPSE-SHIP 4.0.126
Standard

Copyright © 2000
AMS Controls
St. Louis MO 63043
1-800-334-5213
eclipse@amscontrols.com

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kenOc

Options:
Punch Programming
Kits
Custom Menus
Bar Codes
Multi-user with 3 additional users
Production Tracking
Coil Management
Import/Export Data
Custom Label Design
Shipping with 3 users
Multi-COMM's with 2 additional running

☑ Don't show on startup   [Close]

A checkbox located at the bottom of the page "Don't show on startup" will determine whether this window is shown when Eclipse-Comm is started.

Command Buttons

Check Offline Controllers

This command button will initiate Eclipse-Comm to search for all activated XL controllers that are not already communicating to the pc. If a specific controller(s) is not communicating, troubleshooting steps may need to be taken. See the status display below.

AMS CONTROLS
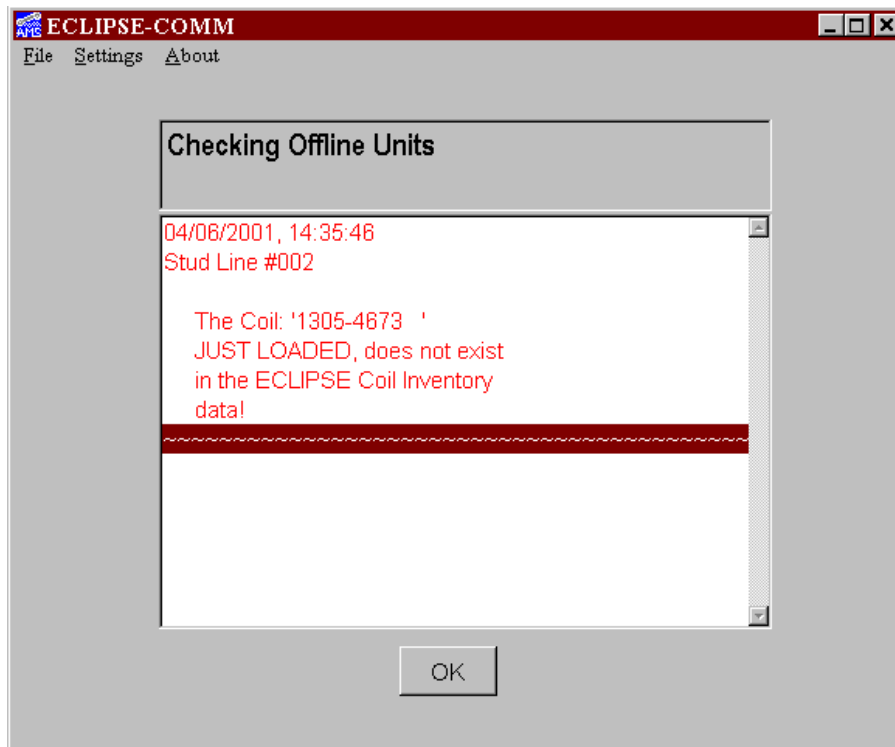
Show Errors

Initiating this command button will display a new text window on the form that shows any production errors. In the case above, a coil was improperly loaded. The error message is displayed in the window.

Import Now

This command will cause Eclipse to upload all import files. These files and their locations are determined in the Eclipse program under the "Settings" selection of the "Maintenance" menu. The specific file locations are shown under the tabbed page of "Import/Exports".

XLGraph

The XLGraph program provides a graphical representation of production that has been produced specific dates and shifts. This provides a visual interface for overall productivity that can be easily scanned by management or production personnel.

Graph
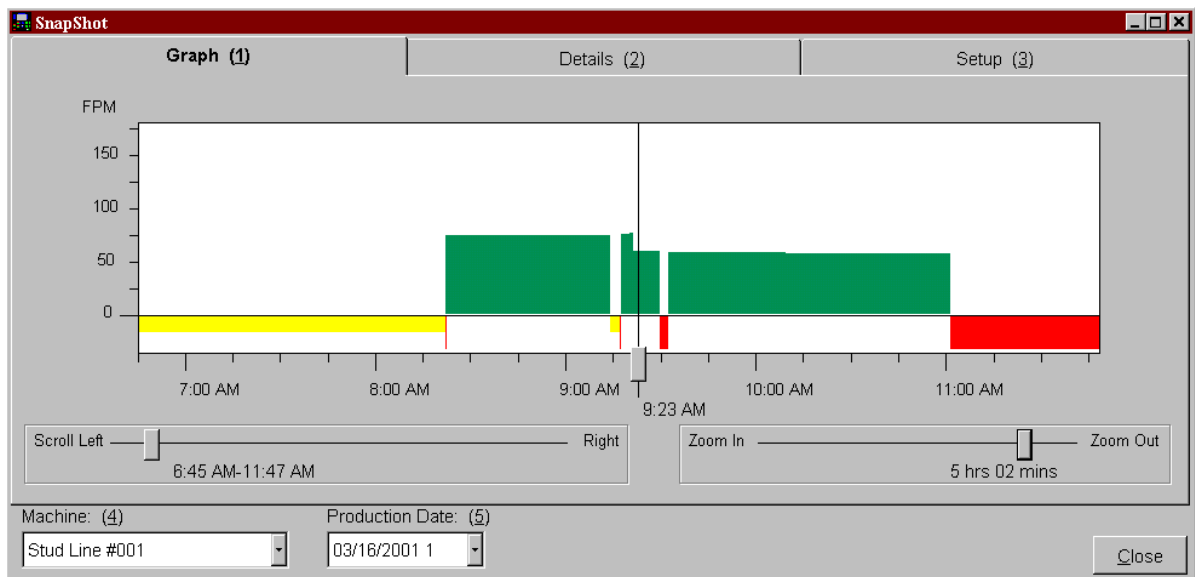
The example above shows Machine #1 (Stud Line #001) and its productivity from 7:00 AM to 11:30 AM. The horizontal portion of the graph represents time. The vertical portion of the graph shows line speed as indicated in FPM (Feet Per Minute). The example show Stud Line #001 averaging 70 to 75 FPM.

Yellow Highlights show production delays that are exempt from standard reporting. The red highlights show delays that are not exempt and should be examined for the cause of the problem.

The green highlights display the periods when the machine was running product. The taller the green display, the faster the line was running. Per the example, the line was slowed down around 9:20 AM.

If the current date and shift have been selected for graphing, the graph will refresh as new production information is reported from the XL controllers.

An additional feature is the ability to display critical data about a colored bar by simply clicking on it with the mouse. Clicking on any colored bar will open a text window with customized information regarding that particular segment of time. For instance, the graph below shows an info window after a run time segment was clicked on.

Three items are displayed within the box (the duration of the run cycle, the order number, and the average line speed).
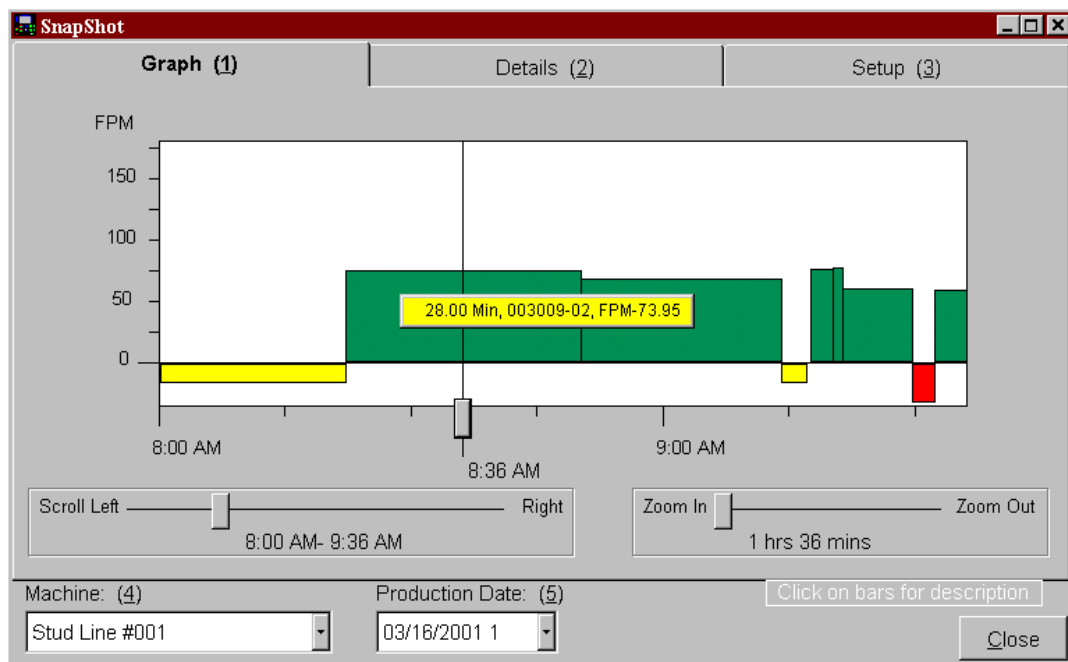
The items displayed in the info box are customized by what is selected in the "Setup" tabbed page. This page will be discussed in more detail.

A "hair line" is displayed on the screen that will pinpoint a specific occurrence for the "Detail" tabbed page. Place this hairline at points of interest so that details may be easily located.

Scroll (Left to Right)

The "Scroll" adjustable bar can move the entire graph backward or forward in time in order to examine time periods not presently in view. Scrolling left goes backward in time; right goes forward in time.

Zoom (In / Out)

The Zoom feature displays the production graph in a lesser or greater time range. The example below targets the exact instant (at the hairline) of time, but looks at it as a roughly two hour period rather than the 5 hour range that was viewed before. The results are now viewed in much greater detail.

The zoom feature can be expanded out to the entire length of the shift. This enables the user to view an entire shift at one time. All System starts, halts, and delays will be recorded and viewed in the "XLGraph" screen.
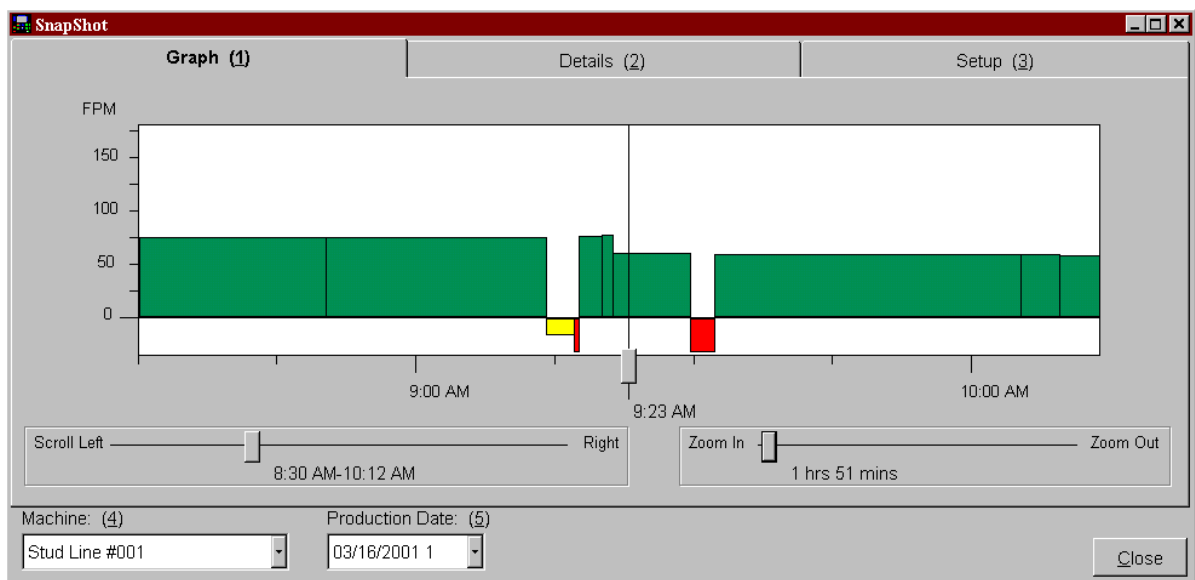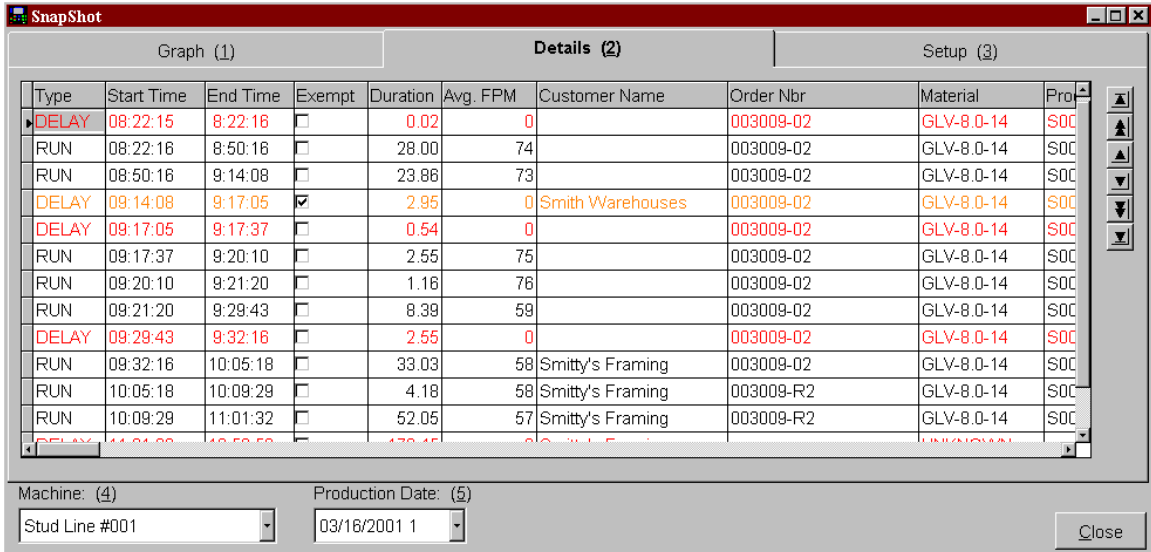
Two drop down lists that are available to the user to get only the information that is desired. Select the "Machine" desired and the "Production Date" (and shift) that is in question and the proper graphic will be displayed.

Details

The graphic display provides a fantastic overview of the productivity of any given line. What if greater detail is desired?

Select the "Detail" tabbed page to show production details. All items related to productivity can be included in this window. As the display shows, run times and delays times are both shown. As before, non-exempt delays are shown in red; exempt delays in yellow. Run time is now shown in black. The highlighted item is determined by the location of the "hairline" scrollable bar located on the graph.

Start times, End times, Duration, Average in FPM, and many other details are shown for each recorded period. The information located on this screen is very similar to the information that can be found on a production report.

As before, drop down lists for the "Machine" selection and the "Production Date" and shift are provided and can be changed in this screen.

Setup

The details that are displayed on a bar description can be customized by the user. This is when the user clicks on a specific bar on the graph. Customized information regarding that specific occurrence in time as indicated by the scroll bar is displayed in an information box.

This information is customized by the settings in this screen. Click on the "Setup" tab to display the respective screen.

The user is to select only the fields that they wish to be displayed in the information box. Highlight the fields that should be displayed in the "Available Fields" windows. To select them, click the "Add" button for both the selected fields in the "Runtime Descriptions" and the "Delay Descriptions". They will then appear on the right-hand side of the screen under "Selected Fields"

To remove a field(s), highlight the field and click on "Remove". "Remove All" will remove all fields from the selected window.

XLSecurity

Eclipse is equipped with a security package to insure that only those with the appropriate permissions are allowed to change critical data, yet flexible enough to allow lower level users to access and use necessary information. All users can be allowed or disallowed access to a multitude of screens and procedures.

Users

XLSecurity will not be activated until after the first user is installed. Once the first user logs on, they will be considered to be the "Master" and no other users will be able to access information until added to the user list.

The User's page will list all viable users on the system. Along with the user's name, it will show who added them to the users list (Changed By) and the date that their authorization was last changed (Change Date).

To add a user, click on the "Add" command button at the bottom of the screen. The program will automatically fill in the window's user ID number in the "Changed By" column and the present date and time in the "Changed Date" column.

Go to the "Authorized Programs" section on tabbed page two. Enter the new name for the user being added. This name does not have to be a windows name or other formal name. The "User Name" field can be an actual name, nickname, or otherwise.

Once this is entered, click on the "Save" command button to save the user. Now the master can set the permissions among the several tabbed pages of information. Among these pages are sections regarding controllers, orders, parts, maintenance, tool, etc. Each section may have many different items that can have permissions granted or revoked.

The following example shows the "Systems" tabbed page. The possible selections include granting access to entire programs or limitations to access. Some selections limit the user to being able to only read the information.

Once all pages have been set for a particular user, click on the "Save" button once again. The user will be listed on the "Users" page. Select the "Add" command button to add additional users and repeat the process.

It is possible to copy an entire set of permissions given to one user and assign them to another user. Once a user is added and saved to the form, select user name that contains the set of permissions that is desired. Select the "Copy All" command button at the bottom of the page. Now, select the user that the permissions will be granted to. After the user is selected, click on the "Paste All" command button then on the "Save" button. Of course, edits can now be made to customize for the new user.

This means of adding permissions to a user(s) can reduce the amount of time it takes for selecting and unselecting approvals.

Clicking the "Print" command button will print a list of the permissions.

XLOptions

When Eclipse is installed for the first time, the software is activated using a window prompting for activation codes. These codes may be issued with the software CD in the Eclipse package or included as an upgrade when purchased at a later time. The XLOptions program enables this to occur. The user starts XLOptions and following activation screen is displayed.

The activation code for each purchased option will need to be entered in order for the option to work in the program.

When entering codes into the activation fields please pay close attention to the case of the letters; the codes are case sensitive. Also, make sure that a zero "0" is not mistaken as a capital "O" or vice versa. Carefully check the activation codes before clicking on the "OK" command button. The new options will be added after "OK" is activated.

T4graphic

The T4graphic program enables a user to download customized graphics to a printer. This is done via a direct connection from the PC to the printer that is being loaded. The window consists of two tabbed pages. The first is the "Graphics" page, the second is the "Printer" page. The printer page (page 2) will be explained first.

Printer

The second tabbed page is the "Printer" setup page. This actually sets up the pc communication settings and port that will be communicating to the printer. The T4Graphics program will automatically determine which printer model is being interfaced with. The C-Itoh T4 printer, Zebra printer, and Datamax printers are each supported in T4Graphic.

The port on the pc that will be attached to the printer will need to be selected. Choices of Com1 to Com 4 are supplied. The communication specifications are also selected as follows.

- Baud Rate
- Parity
- Data Bits
- Stop Bits
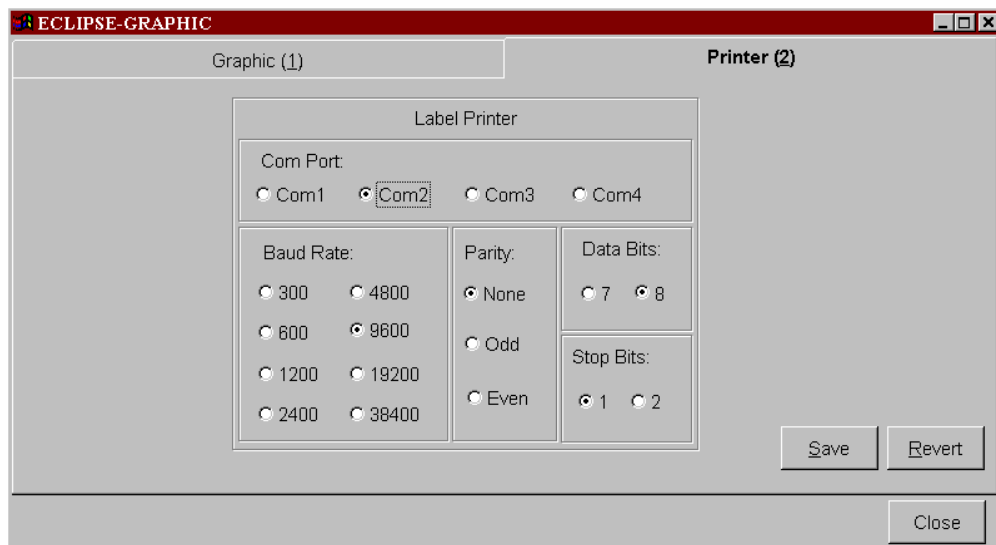
Once the proper settings for communicating are set, click on the "Save" command button to save the settings for future use. If the user desires not to keep any changes that were made, select "Revert". This will cause all settings to return to their original state before the screen was accessed.

Graphic

The "Graphic" tabbed page (page 1) enables the user to locate a graphic and store it on a printer. The desired graphic will first need to be identified and located. The path name to the graphic can be typed into the "File name" text box or located by browsing by pressing the (…) command button. The example below shows a bit map named "AMS2.BMP" that is located in the Eclipse directory of the host pc.
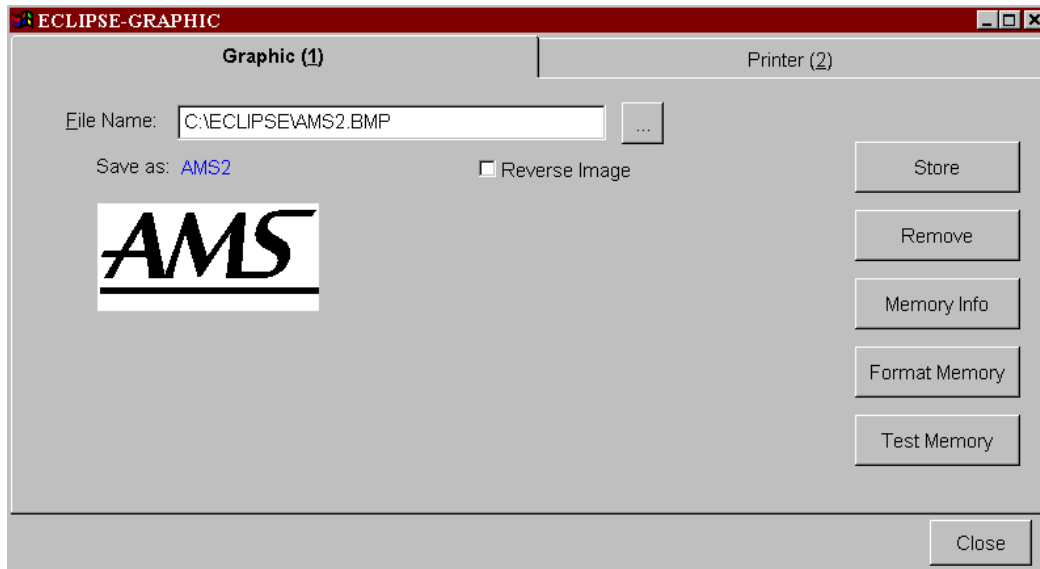
The actual graphic is displayed on this page. The size and rotation of the graphic must be specified before downloading to the printer. The location of the graphic on the printed tag can be changed by Eclipse, but the size and rotation are permanent properties once downloaded to the printer.

Go back to tabbed window number 1 (Graphics). There are 5 command buttons that provides the needed functions for handling printer memory and graphics.

Memory Info

Verify communication to the printer and check available memory by clicking on the "Memory Info" command button. Upon initiating the memory check, a pop up window will display the status of the memory scan on the printer.
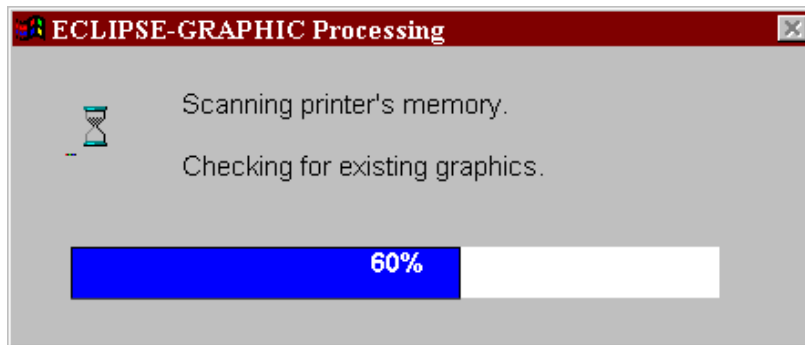
At the completion of the memory scan, the results will be displayed in a memo window. The user should see similar results as the example below displays. Slight variations can be expected.

MODULE: A
ABCLOGOB
AVAILABLE BYTES IN MODULE : 00258763
MODULE: B
AVAILABLE BYTES IN MODULE : 00016000

Clear   Close
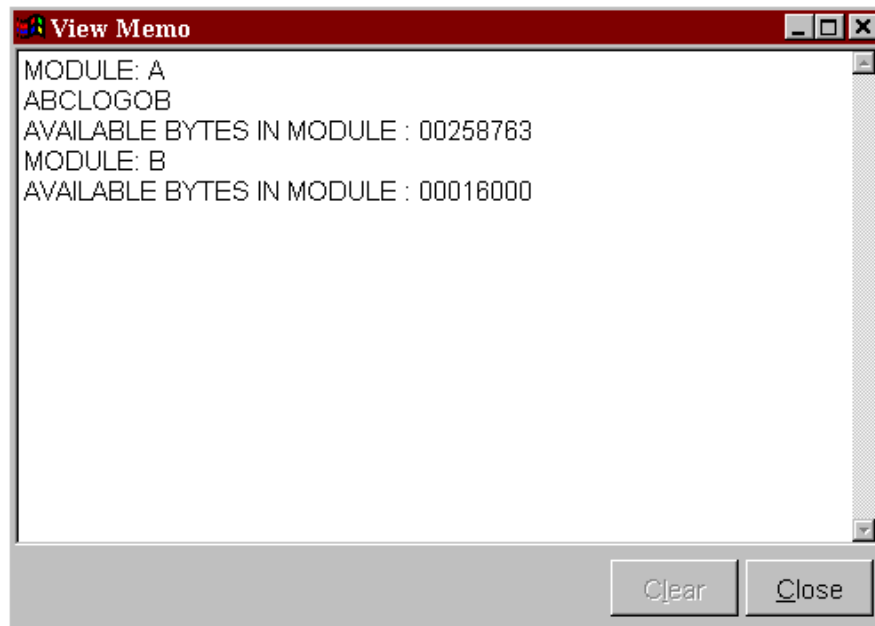
Format Memory

This function will format the memory of the printer to allow a graphic to be downloaded. Click on the "Format Memory" command button to begin the formatting process. A pop up window will display the status of the memory format as shown below.

This will also clear the memory of any existing graphics!
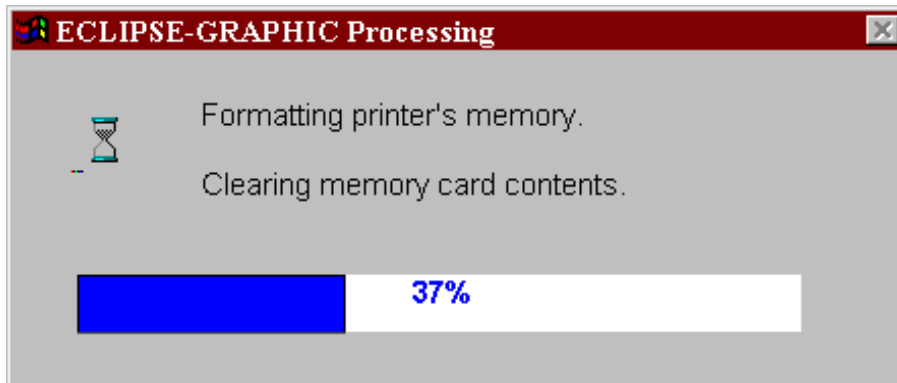
Test Memory

The user has the ability to test the memory. Some memory cards or modules may become corrupted or contain bad memory locations. Clicking the "Test Memory" command button can test for such items.
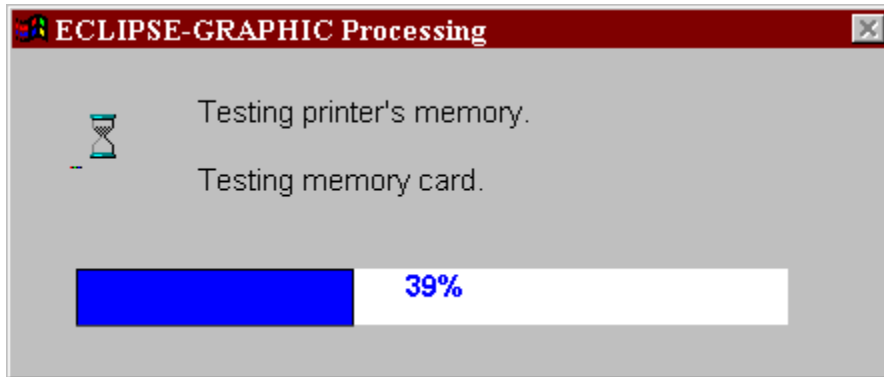
The "Test Memory" procedure will also clear the memory of any existing graphics!

A warning will be displayed before a graphic is erased. Click on the "Proceed" command button to continue with the memory test process. Any existing graphics will be cleared. Click on "Cancel" to escape the memory test mode.

If memory test is continued and allowed to complete, it will then post a window showing the results of the memory scan. The display will include a "Good" or "Bad" result regarding the condition of the memory card or module. If the result is "Bad", the card or module should be replaced.

Store

Once the printer memory has been formatted, the selected graphic can then be downloaded to the printer. Verify that the graphic is the right size and rotation on the display. If the text for your tag is at 90 degrees, the graphic will also need to be turned 90 degrees.

Click on the "Store" command button. This will load the graphic into the printer memory. The download status is displayed in a pop up window as shown below.

ECLIPSE-GRAPHIC Processing

Adding graphic to printer's memory.

Loading graphics.

28%
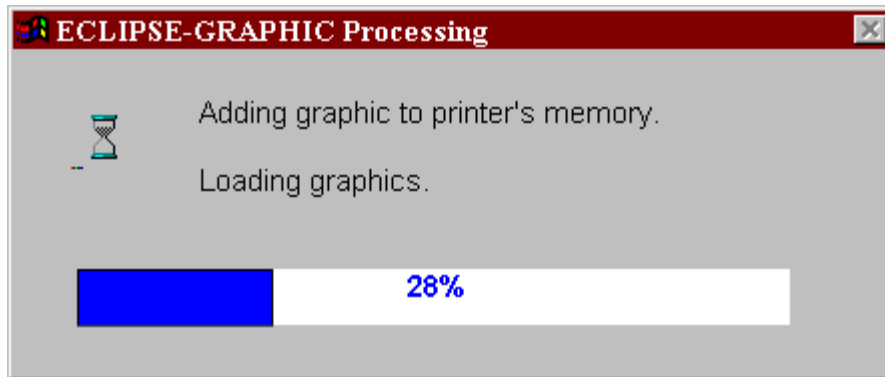
Remove

Graphics can be removed from the printer memory. Click on the "Remove" command button to delete the graphic from the printer. A status window will be shown with the progress of the removal.

ECLIPSE-GRAPHIC Processing

Removing graphic from printer's memory.

Packing memory card contents.

63%
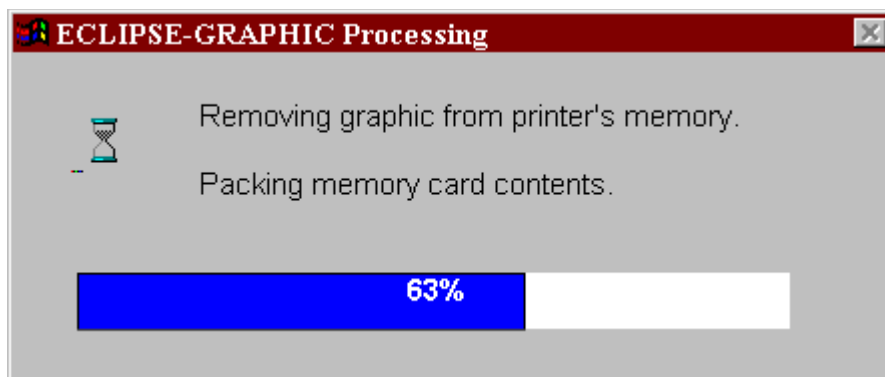
Cv42win

Eclipse provides a method for converting old XL-Link files into usable Eclipse files. This allows for Eclipse to be installed over XL-Link systems without the loss of important history files and setup data.

To start the conversion of XL-Link files to Eclipse files, start the Cv42win.exe program that is located in the Eclipse directory. Upon starting, the program will first create a backup copy of critical files so that the conversion process can be reversed if required.
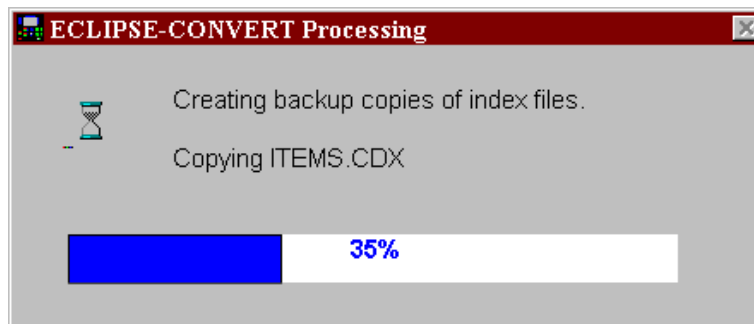
After the backup copies are created, a window prompt will be displayed asking the user to either import files or create empty files. If "Create Empty Files" is selected, the old data will be lost. The option to "Exit" is provided and no further operations will be performed.
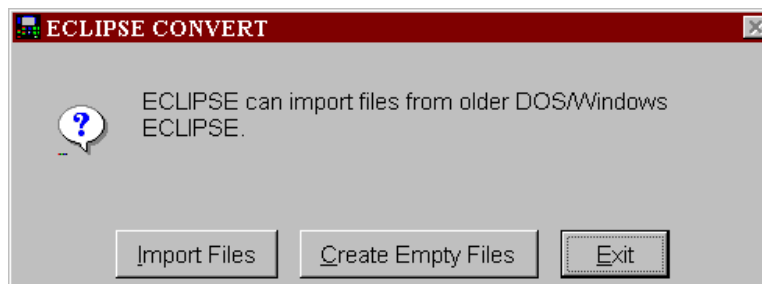
If "Import Files" is selected, the old files will now be converted into Eclipse files. The user will not be prompted to select the files that are to be updated. A browse window is displayed for this purpose.
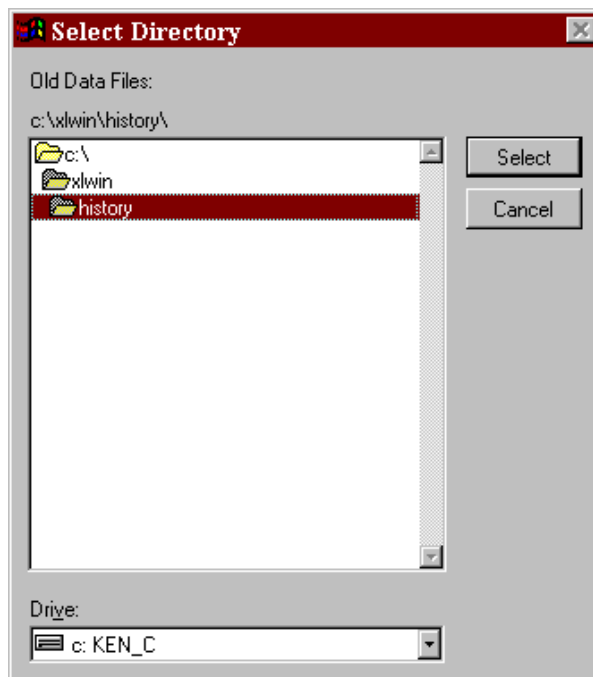
After the desired file is located and highlighted, click on the "Select" command button. The files within that directory will now be converted into Eclipse files. All associated data is now accessible by Eclipse for viewing and reporting.

Rv42win

The Rv42win.exe program is available if it becomes necessary to revert Eclipse files back into version 3 files (usable by XL-Link).

Start the Rv42win.exe program found in the Eclipse directory. A window prompt will be displayed to either "Revert Files" or "Exit" the program.

If "Revert Files" is selected, a subsequent browse window is displayed asking for the location of the files to be reverted. The example below shows this window as the user selects the directory with the information for reverting.
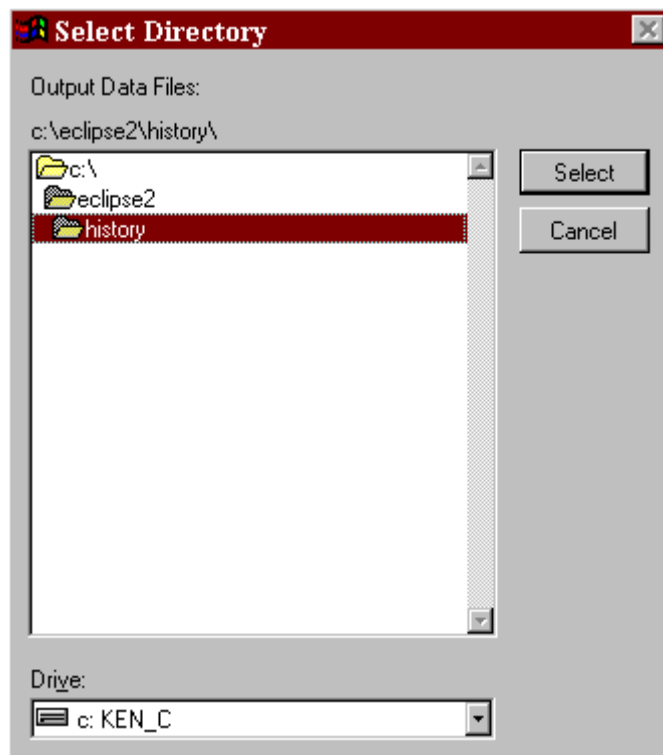
After the appropriate file is targeted, click on the "Select" command button. All respective files in that directory will be reverted to a version 3 format. Windows-based XL-Link programs can then use these file formats.

File Transfer Specs

Importing File Specification

Eclipse allows the importation of data that already exists on other computers or mainframes. Importing data requires that information only be entered once, saving time and money. Appendix A discusses what is required for importing files into the Eclipse program and provides samples of various import files.

Data can be transferred between other software and Eclipse via ASCII files. Order files, Part Definition files, Bundle files, Coil Data files, Material Definition files, Product Code Definition files, and Customer information files are transferred to Eclipse via respective "DEL" files (OrderIn.DEL, Partin.DEL, BundleIn.DEL, CoilIn.DEL, Materialin.DEL, PCodein.DEL, and Customer.DEL).

Eclipse automatically inputs these files from designated directories. File names may be located in any directory as designated by the Import/Export Settings of the Settings form (found under Maintenance in Eclipse).

The files are composed of coma delimited-field records. Each record must be terminated with a line feed and carriage return symbol and each individual field must be separated by a comma. Character fields are further delimited with double quotes. Each has a size limitation which is specified in this appendix. If a field is not needed, place a set of double quotes between the commas to express an empty field. If trailing fields of the message are not needed, they may be left blank.

File Import

Eclipse searches for import files at predetermined intervals as programmed in the "Settings" form found under the "Maintenance" menu bar. When a new file is detected in the directory, the information in the file will be read into Eclipse and the file will be deleted.

The following procedure _must be_ adhered to when using the file import.

Eclipse may be interfaced through a wide range of software and hardware while performing file imports. In order to eliminate potential problems with data transfer, duplication, or loss, adhere to the following procedure.

- Buffer your data in a temporary file.
- Check for the existence of the last import file that was created. If it exists, Eclipse has not read it in yet so you must try later or write a different file name. Eclipse does support the "?" and "*" wildcards in the file names specification located in the "Settings" form.
- **Do not modify existing import files!**
  If you MUST modify an existing import file (NOT RECOMMENDED), rename it, make the necessary changes, and rename it back.
- If the previous file no longer exists, copy or rename your buffer file.

Copies of all import files can be saved to the Windows Temp directory if the option is selected. This option may be selected in the Import / Export tab of the "Settings" form under the Maintenance menu of Eclipse. The file names will begin with "D" followed by 7 numbers. The following extensions will be used to identify the appropriate files:

"**ORD**" for Orders   "**PRT**" for Parts   "**COI**" for Coils
"**BND**" for Bundles   "**CUS**" for Customers "**MAT**" for Materials
"**PCD**" for Product Codes

File Export

Eclipse uses the same procedure for exporting production data as it uses for importing files.

- All data is buffered in a temporary file.
- The existence of the last export file is checked for. If it exists, data is kept in the buffer.

- If the last export file no longer exists, the buffer file is copied to the export file.

ORDERIN.DEL

Field Name	Type	Size	Notes
Order Number	Character	18 or 15	15 if controller is using Product Codes
		20	20 if XL200 UART 3.03 controller
Bundle	Numeric	3	
Quantity	Numeric	4	
Length	Numeric	8,3	In inches Example 1234.123
Material	Character	20 or 18	18 if controller is using Product Codes
		20	20 if XL200 UART 3.03 controller
Message	Character	40	
Product Code	Character	5 or 20	20 if XL200 UART 3.03 controller
Part Number	Character	30	References punch pattern
			Only used if punching or printing on part
Part Option	Character	1	'R' = Right-handed
			'L' = Left-handed
			'A' = Alternate
			'M' = Mirror
Bundle Label	Character	254	Contains actual print commands
Part Label	Character	254	Contains actual print commands
Kit Name	Character	24	Only used if importing Kit definitions
Item_ID	Character	22	Required when using action codes
			Should be unique for each item in an order
Action	Character	1	'A' = Add
			'C' = Change
			'D' = Delete - no Recall
			'Q' = Sequenced
			'R' = Recall, Delete and Return
			'X' = Recall and Delete
Schedule Date	Date	8	
Machine	Number	2	Required when action = 'Q'
User1	Character	254	
User2	Character	254	
Hole Offset	Numeric	8,3	Used with Hole Count Option
			Example 1234.123
Hole Count	Numeric	4	Number of holes to count
Stagger	Character	1	"S" for a staggered bundle, blank otherwise
Part Format	Character	12	Specifies predefined format by name
Bundle Format	Character	12	Specifies predefined format by name
User3	Character	254	
User4	Character	254	

| User5 | Character | 254 |
| Bundle Code | Character | 15 |

Examples of "ORDERIN.DEL" file

With No Hole Counting

"185-0093",1,250,144.875,"48RED024","","PCODE","124","R","","","","","","08/23/98,2

With Hole Counting

"185-0094",1,10,144.875,"48RED024","","PCODE","123","R","","","","","","08/23/98,2,"","",12.275,1

PARTIN.DEL

Field Name	Type	Size	Notes
Part Number	Character	30	
Length	Numeric	8,3	1234.123
Part Option	Character	1	'R' = Right-handed
			'L' = Left-handed
			'A' = Alternate
			'M' = Mirror
Tool Number	Numeric	3	S/B blank if punch is a macro
Reference	Numeric	1	0 = Leading Edge
			1 = Trailing Edge
			2 = Leading Center
			3 = Trailing Center
			4 = Even Spacing
			5 = Spacing Limit
			8 = Kerf Adjustment
Offset	Numeric	8,3	Example 1234.123
Permanent	Logical	1	T or F (no quotes)
Macro Name	Character	30	References a part number of a macro part
Y Offset	Numeric	8,3	Example 1234.123
Y Reference	Numeric	1	1 = Center +
			2 = Center -
			3 = + Edge
			4 = - Edge

Example of PARTIN.DEL file

"124",120,"R",4,0,38.375,T

"124",120,"R",7,0,46.325,T

"124",120,"R",9,1,2.875,T

AMS CONTROLS

BUNDLEIN.DEL

Field Name	Type	Size	Notes
Order	Character	20, 18 or 15	See ORDERIN.DEL spec
Material	Character	20 or 18	See ORDERIN.DEL spec
Product Code	Character	5 or 20	See ORDERIN.DEL spec
Bundle	Numeric	3	
User1	Character	254	
User2	Character	254	
User3	Character	254	
User4	Character	254	
User5	Character	254	
Bundle Label	Character	254	*Contains actual print commands
Part Label	Character	254	*Contains actual print commands
Kit Name	Character	30	Only used if importing kit definitions
Bundle Format	Character	12	*Specifies predefined format by name
Part Format	Character	12	*Specifies predefined format byname
Cust Name	Character	30	*Customer Name
Cust Address 1	Character	254	*Customer Address 1
Cust Address 2	Character	254	*Customer Address 2
Cust City	Character	254	*Customer City
Cust State	Character	2	*Customer State
Cust Zip	Character	10	*Customer Zip Code
Cust Country	Character	3	*Customer Country Abbr.
Cust Inst	Character	254	*Special Shipping Instructions
Staging Bay	Character	10	*Staging bay location for end product
Loading Dock	Character	10	*Defines loading dock for end product
Work Order	Character	18	*Customer defined field
Truck Number	Character	12	*Defines outbound truck/route number
Required Date	Character	8	*Date required at customer location
Product Group	Character	20	*Defines a Product Code group
Hold	Logical	1	T or F (no quotes)

NOTES:

- If Bundle = 0, then User1 through User5 applies to the specified order.

- If Bundle ≠ 0, then User1 through User5 applies to the specified bundle.

- The Bundle file must be presented at the same time as the ORDERIN file to insure proper processing.

* These fields are entered or downloaded on a per order basis. (Bundle = 0)

Example of BUNDLEIN.DEL file

"081-00795","48RED024","PCODE",0

COILIN.DEL

Field Name	Type	Size	Notes
Action	Character	1	'A' = Add Coil 'C' = Change Coil – leave all unchanged fields empty 'D' = Delete Coil
Coil Number	Character	16	
Description	Character	40	
Date In	Character	10	
Date Out	Character	10	
Start Length	Character	8	Example 12345678
Length Used	Character	8	Example 12345678
Status	Character	1	I = Incomplete C = Complete
Vendor Name	Character	30	
Material	Character	20 or 18 20	18 if controller is using Product Codes 20 if XL200 UART 3.03 controller
Type	Character	10	
Cost Per Lb.	Character	9	Example 1234.1234
Nex Scrap	Character	9	Non-exempt scrap (eg. Plant fault) Example 1234.1234
Ex Scrap	Character	9	Exempt scrap (eg. Supplier fault) Example 1234.1234
Other Adjust	Character	9	Other adjustments (eg. testing) Example 1234.1234
Weight	Character	10	Example 12345.1234
Heat Number	Character	20	
Vendor Code	Character	16	
Purchase Order #	Character	10	

Example of COILIN.DEL file

"A","985612-023","48-in wide painted","08/10/98","","3500","","I","USS","48RED024","","2.50"

CUSTOMER.DEL

Field Name	Type	Size	Notes
Action	Character	1	'A' = Add Customer 'C' = Change Customer – leave all unchanged fields empty 'D' = Delete Customer
Customer Code	Character	11	
Customer Name	Character	30	
Customer Address 1	Character	30	
Customer Address 2	Character	30	
Customer City	Character	30	
Customer State	Character	2	
Customer ZIP	Character	10	
Customer Country	Character	3	
Shipping Instructions	Character	30	
Reserved	Characted	1	
Max Bundle Weight	Numeric	4,0	
Delivery Phone	Character	30	
E-mail address	Character	100	

Note: These items will be added to a customer table that can be automatically recalled by associating the customer code to an order.

Example of CUSTOMER.DEL file

"1","XYZ-100","XYZ Company","555 Hansbrough","Suite-K","RoundRock","MO","55555","USA","YellowFrt"

AMS CONTROLS

MATERIALIN.DEL (release 4.1.75)

Field Name	Type	Size	Notes
Action	Character	1	'A' = Add Material 'C' = Change Material – leave all unchanged fields empty 'D' = Delete Material
Material	Character	20	18 if controller is using Product Codes 20 if XL200 UART 3.03 controller
Gauge	Numeric	2	
Thickness	Numeric	6,4	
Width	Numeric	6,3	
Color	Character	20	
Type	Character	10	
Cover	Numeric	7,3	
Description	Character	40	
Lb/Ft	Numeric	8,4	
Cost/Lb	Numeric	9,4	
Normal Length	Numeric	9,3	
Reorder	Numeric	6	
Blank Sheet	Logical	1	T or F (no quotes)
Blank Material	Character	1	'1' = Aluminum '2' = Copper '3' = Stainless '4' = Steel '5' = Zinc
Clamp Position	Numeric	5,3	
Clamp Pressure	Numeric	3	As a percent
Overbend	Numeric	5,1	Degrees
Radius Adjustment	Numeric	5,3	
Hem Clamp Pressure	Numeric	3	As a percent

Example of MATERIALIN.DEL file

PCODEIN.DEL (release 4.1.75)

Field Name	Type	Size	Notes
Action	Character	1	'A' = Add Product Code 'C' = Change Product Code – leave all unchanged fields empty 'D' = Delete Product Code
Machine	Numeric	3	
Product Code	Character	5 or 20	See ORDERIN.DEL spec
Description	Character	30	
Finished Width	Numeric	8,3	
Staging Bay	Character	10	
Loading Dock	Character	10	
Hole Spacing	Numeric	8,3	For XL controllers in hole count mode
Calculate Length	Logical	1	T or F (no quotes) only if Hole count = T
Hole Count	Logical	1	T or F (no quotes)
Target Rate	Numeric	4	
Coil Change Minutes	Numeric	6,3	
Tool Change Minutes	Numeric	6,3	
Tool Library	Character	25	
Setup Library	Character	25	
Custom List	Character	40	
Axis Library	Character	25	
Preferred Machine	Logical	1	T or F (no quotes)
Setup Instructions	Character	250	
Leg Height	Numeric	8,3	
Product Group	Character	20	

Example of PCODEIN.DEL file

ProdOut.del

Eclipse Field (Name)	Type	Size	Notes
Type	C	1	1=General Production Record 2=Coil Change 3=Machine Started 4=Controller Turned On 5=Job Request 6=Controller Fault 7=Delay 8=Custom or Query List/Quality Audit Feedback C=Quality Audit Trigger S=Start of Shift E=End of Shift G=General Feedback Record
Date	D	8	MM/DD/YY Date record created at Controller
Machine	N	2	Unit number of controller (1-30)
Time	C	8	HH:MM:SS Time record created at the controller
Order Number	C	20	15 if controller is using Product Codes 20 if XL200 UART 3.03 controller
Bundle	N	3	Current bundle or lift (0 to 900) (900-999 refer to scrap codes)
Quantity	N	4	Number of pieces produced in this record
Item Length	N	8,3	Length of part (0 to 3500.000 inches)
Pattern	N	3	Hole pattern for part (1 to 999) assigned by Eclipse
Part Option	C	1	'R' = Right-handed 'L' = Left-handed 'A' = Alternate 'M' = Mirror 'H' = Hole count
InvCoil	C	16	Current coil inventory number
Footage	N	11,3	**For Type 1 and Reason <> "X":** Length run in inches since last type "1" **For Type 1 and Reason = "X":** Always zero.
Reason	C	3	**For Type 1:** 'B' = Bundle halt 'O' = Out-of-orders halt 'C' = End of Coil

'H' = Manual halt
'I' = Inter-item, no halt
'M' = Manual shear, no halt
'P' = XL100/XL200 power off
'T' = Tolerance halt
'E' = Coil-end-point halt
'X' = Decrement quantity
'Y' = Increment quantity
'Z' = Coast to stop
For Type 2:
'L' = Load coil
'D' = Delete coil
'R' = Return coil to inventory
For Type 8:
'C' = Custom list
'Q' = Query list
For Type G:
'R' = Order returned for changes
'D' = Order is done
'M' = Order sent to controller
'U' = Order recalled from controller
'C' = Coil inventory update
For Type E and S:
'H' = Runtime record
'R' = Downtime record

Field	Type	Length	Description
Minutes	N	13	Date and time converted to minutes since Jan. 1, 1980
Material	C	20	18 if controller is using Product Codes 20 if XL200 UART 3.03 controller
Scrap Code	N	3	**For Type 1:** Scrap code as defined by user if Footage – Total Length <> zero
Employee ID	N	7	
Name	C	30	Employee name
Lb. / Ft	N	6,3	Weight per foot of material specified in order
Delay Code	N	2	**For Type 1 and reason = "M":** 'D' = Delay if duration is <> zero **For Type 3, 7 and E:** 'D' = Delay if duration is <> zero
Delay Reason	C	30	
Duration	N	8	**For Type 1, 3, 7 and E:** Time in minutes since last type 1, 3, or 7 production message. Used for Runtime, Downtime and

			Exempt Time.
Item ID	C	22	Identifier of item if item_id was sent to Eclipse – this value should relate back to your back-end system (AS400, etc.)
Product Code	C	20	20 if XL200 UART 3.03 controller
Cost Per Lb.	N	5,2	Cost per pound of material specified in order
Customer Name	C	30	
Order Type	C	1	'H' if Hole Count order
Hole Count	N	4,0	Number of holes counted if Order Type = 'H'
Hole Offset	N	8,3	Distance to 1st hole if Order Type = 'H'
Work Order Nbr	C	18	
List ID	N	10	**For Type 8 only:** Custom or Query list ID
List Text	C	40	**For Type 8 only:** Custom or Quality audit list text

Expanded ProdOut.del

Eclipse Field (Name)	Type	Size	Notes
Type	C	1	1=General Production Record 2=Coil Change 3=Machine Started 4=Controller Turned On 5=Job Request 6=Controller Fault 7=Delay 8=Custom or Query List/Quality Audit Feedback C=Quality Audit Trigger S=Start of Shift E=End of Shift G=General Feedback Record
Reason	C	3	**For Type 1:** 'B' = Bundle halt 'O' = Out-of-orders halt 'C' = End of Coil 'H' = Manual halt 'I' = Inter-item, no halt 'M' = Manual shear, no halt 'P' = XL100/XL200 power off 'T' = Tolerance halt

AMS CONTROLS

'E' = Coil-end-point halt
'X' = Decrement quantity
'Y' = Increment quantity
'Z' = Coast to stop
For Type 2:
'L' = Load coil
'D' = Delete coil
'R' = Return coil to inventory
For Type 8:
 'C' = Custom list
 'Q' = Query list
For Type G:
'R' = Order returned for changes
'D' = Order is done
'M' = Order sent to controller
'U' = Order recalled from controller
'C' = Coil inventory update
For Type E and S:
'H' = Runtime record
'R' = Downtime record

Field	Type	Length	Description
Date	D	8	MM/DD/YY Date record created at Controller
Time	C	8	HH:MM:SS Time record created at the controller
Minutes	N	13	Date and time converted to minutes since Jan. 1, 1980
Production Date	D	8	Shift Date
Shift	C	1	
Machine	N	2	Unit number of controller (1-30)
Order Number	C	20	15 if controller is using Product Codes 20 if XL200 UART 3.03 controller
Material	C	20	18 if controller is using Product Codes 20 if XL200 UART 3.03 controller
Product Code	C	20	20 if XL200 UART 3.03 controller
Customer Name	C	30	
Work Order Nbr	C	18	
Order Type	C	1	'H' if Hole Count order
Bundle	N	3	Current bundle or lift (0 to 900) (900-999 refer to scrap codes)
Quantity	N	4	Number of pieces produced in this record
Item Length	N	8,3	Length of part (0 to 3500.000 inches)
Part Option	C	1	'R' = Right-handed 'L' = Left-handed 'A' = Alternate 'M' = Mirror 'H' = Hole count

Part Number	C	30	
Pattern	N	3	Hole pattern for part (1 to 999) assigned by Eclipse
Total Length	N	11,3	Quantity x Item Length in inches
Footage	N	11,3	**For Type 1 and Reason <> "X":** Length run in inches since last type "1" **For Type 1 and Reason = "X":** Always zero.
Hole Offset	N	8,3	Distance to 1st hole if Order Type = 'H'
Hole Count	N	4,0	Number of holes counted if Order Type = 'H'
InvCoil	C	16	Current coil inventory number
Coil Material	C	20	
Coil Width	N	6,3	
Lb. / Ft	N	6,3	Weight per foot of material specified in order
Cost Per Lb.	N	5,2	Cost per pound of material specified in order
Heat Number	C	20	Coil batch number
Code Type	C	1	**For Type 1:** 'S' = Scrap if Footage – Total Length <> zero **For Type 1 and reason = "M":** 'D' = Delay if duration is <> zero **For Type 2:** 'C' = if coil verification error **For Type 3, 7 and E:** 'D' = Delay if duration is <> zero
Code Value	C	3	**For Type 1:** Scrap code as defined by user **For Type 3, 7 and E:** Delay code as defined by user
Code Description	C	30	**For Type 1:** Scrap reason **For Type 2:** Coil verification error **For Type 3, 7 and E:** Delay reason
Code Exempt	C	1	**For Type <> 2:** 'E' = Exempt 'N' = Non-exempt example: Non-plant or non operator-fault – scrap coil was damaged in shipment, delay scheduled maintenance
Machine Status	C	1	'R' = Running 'H' = Halted
Duration	N	8,2	**For Type 1, 3, 7 and E:** Time in minutes since last type 1, 3, or 7 production message. Used for Runtime, Downtime and Exempt

			Time.
Runtime	N	8,2	**For Type 1 and (Type E with Reason = "H"):** Duration In minutes
Downtime	N	8,2	**For Type 3, 7, and (Type E and Reason = "R"):** In minutes if Delay is non-exempt
Exempt Time	N	8,2	**For Type 3, 7, and (Type E and Reason = "R"):** In minutes if Delay is exempt
Good Footage	N	11,3	**For Type 1 and Reason <> "X":** Qty * Length in inches – (Excludes Decrement Qty. footage)
Scrap Footage	N	11,3	**For Type 1 and Reason <> "X":** Total footage run minus good footage in inches if Scrap is non-exempt – (Excludes Decrement Qty. footage) **For Type G:** Adjustments to coil non-exempt scrap – for manual adjustments in Eclipse
Exempt Scrap	N	11,3	**For Type 1 and Reason <> "X":** Total footage run minus good footage in inches if Scrap is exempt – (Excludes Decrement Qty. footage) **For Type G:** Adjustments to coil exempt scrap – for manual adjustments in Eclipse
Reclaimed	N	11,3	**For Type 1 and Reason = "X":** Qty * Length in inches – (Includes only Decrement Qty. footage)
Actual Speed	N	8,3	
Target Speed	N	8,3	
Employee ID	N	7	
Name	C	30	Employee name
Item ID	C	22	Identifier of item if item_id was sent to Eclipse – this value should relate back to your back-end system (AS400, etc.)
List ID	N	10	**For Type 8 only:** Custom or Query list ID
List Text	C	40	**For Type 8 only:** Custom or Quality audit list text
Plant Name	C	30	
List Valid	C	30	**For Type 8 and Reason = "C" only:**
Code Responsibility Type	N	1	**For Type <> 2:** 0 = Not Specified 1 = Operational

2 = Equipment
3 = External

Bundle Code   C   15

Import from SQL Server

Alternatively, data can be transferred between other software and Eclipse via SQL Server tables or Stored Procedures. Order data, Part Definition data, Bundle data, Coil Data data, Material Definition data, Product Code Definition data, and Customer information data are transferred to Eclipse via respective SQL Server tables or Stored Procedures (OrderIn , Partin , BundleIn , CoilIn, Materialin, PCodein, and Customer).

Eclipse automatically gathers this data from designated SQL Server tables or Stored Procedures. The data source for all import data types must be the same ODBC data source. Export data can be designated to go to a different ODBC data source. The ODBC data source, user ID, password and table or stored procedure names for import and/or export are setup in the form displayed when the XLSQLSETUP executable is run.

The data passed to Eclipse from the SQL Server tables or Stored Procedures must be in fields whose ID's, data types, and sizes match the definitions in the tables that follow. If a field is not needed, do not define it in the SQL Server tables or Stored Procedures. A sample script is included with the product files.

Data Import

Eclipse searches for import data at predetermined intervals as programmed in the "Settings" form found under the "Maintenance" menu bar. When new data is detected having a SQLSTATUS value of "N" in the SQL Server tables or by running a Stored Procedure, the information will be read into Eclipse and the SQLSTATUS value will be changed to "P". When the data has been updated in Eclipse the SQLSTATUS value will be changed to "C".

The following procedure _must be_ adhered to when using the SQL Server tables or Stored Procedures.

Eclipse may be interfaced through a wide range of software and hardware while performing file imports. In order to eliminate potential problems with data transfer, duplication, or loss, adhere to the following practice.

- **Do not change data with a SQLSTATUS value of "N" or "P"**
- **If a stored procedure is used to gather the import data, a stored procedure to set a processing status to complete must also be included.**

Copies of all import data can be saved to the Windows Temp directory if the option is selected. This option may be selected in the Import / Export tab of the "Settings" form under the Maintenance menu of Eclipse. The file names will begin with "D" followed by 7 numbers. The following extensions will be used to identify the appropriate files:

"**ORD**" for Orders	"**PRT**" for Parts	"**COI**" for Coils
"**BND**" for Bundles	"**CUS**" for Customers	"**MAT**" for Materials
"**PCD**" for Product Codes		

Data Export

Eclipse uses the same procedure for exporting production data as it uses for importing data from SQL Server tables. Eclipse does not currently support using Stored Procedures to get data directly from Eclipse tables.

ORDER Data

Field Name	Type	Size	Notes	Field ID
Order Number	Character	18 or 15 20	@*	Order_
Bundle	Numeric	3	@	Bundle
Quantity	Numeric	4		Qty
Length	Numeric	8,3	*	Length
Material	Character	20 or 18 20	@*	Material
Message	Character	40		Message
Product Code	Character	5 or 20	@*	Pcode
Part Number	Character	30	*	Part_num
Part Option	Character	1	@*	Option_
Bundle Label	Character	254	*	Bndl_msg
Part Label	Character	254	*	Prin_msg
Kit Name	Character	24	*	Kit
Item_ID	Character	22	@ Must be unique for each item	Item_id
Action	Character	1	@ 'A' = Add 'C' = Change 'D' = Delete 'Q' = Sequenced 'R' = Recall, Delete and Return 'X' = Recall and Delete	Action_
Schedule Date	Date	8		Schedule
Machine	Number	2	Required with action 'Q'	Machine
User1	Character	254		User1
User2	Character	254		User2
Hole Offset	Numeric	8,3	*	Offset
Hole Count	Numeric	4	*	Holecount
Stagger	Character	1	*	Stagger
Part Format	Character	12		Partlabel
Bundle Format	Character	12		Bndlelabel
User3	Character	254		User3
User4	Character	254		User4
User5	Character	254		User5
Bundle Code	Character	15		Bndlecde
SQL Sequence	Numeric	4	@ Designates processing sequence of items	Sqlseqnce
SQL Status	Character	1	@ "N" = New record to process "C" = Eclipse done	Sqlstatus

* See ORDERIN.DEL for description
@ Required field

PART Data

Field Name	Type	Size	Notes	Field ID
Part Number	Character	30	@	Part_num
Length	Numeric	8,3	*	Length
Part Option	Character	1	@*	Option_
Tool Number	Numeric	3	@*	Tool
Reference	Numeric	1	@*	Reference
Offset	Numeric	8,3	*	Offset
Permanent	Logical	1	*	Permanent_
Macro Name	Character	30	*	Macro
Y Offset	Numeric	8,3	*	Y_Offset
Y Reference	Numeric	1	*	Y_Ref
SQL Status	Character	1	@ "N" = New record to process "C" = Eclipse done	Sqlstatus

* See PARTIN.DEL for description
@ Required field

BUNDLE Data

Field Name	Type	Size	Notes	Field ID
Order	Character	20, 18 or 15	@*	Order_
Material	Character	20 or 18	@*	Material
Product Code	Character	5 or 20	@*	Pcode
Bundle	Numeric	3	@	Bundle
User1	Character	254		User1
User2	Character	254		User2
User3	Character	254		User3
User4	Character	254		User4
User5	Character	254		User5
Bundle Label	Character	254	*#	Bndl_msg
Part Label	Character	254	*#	Prin_msg
Kit Name	Character	30	*	Kit
Bundle Format	Character	12	*#	Bndlelabel
Part Format	Character	12	*#	Partlabel
Cust Name	Character	30	*#	Custname
Cust Address 1	Character	254	*#	Custaddr1
Cust Address 2	Character	254	*#	Custaddr2
Cust City	Character	254	*#	Custcity
Cust State	Character	2	*#	Custstate
Cust Zip	Character	10	*#	Custzip
Cust Country	Character	3	*#	Custcntry
Cust Inst	Character	254	*#	Custinstr
Staging Bay	Character	10	*#	Stagebay
Loading Dock	Character	10	*#	Loaddock
Work Order	Character	18	*#	Workorder
Truck Number	Character	12	*#	Trucknbr
Required Date	Date	8	*#	Req_date
Product Group	Character	15	*#	Pcodegrp
Hold	Logical	1	*#	Hold
SQL Status	Character	1	@ "N" = New record to process "C" = Eclipse done	Sqlstatus

NOTES:

- If Bundle = 0, then User1 through User5 applies to the specified order.
- If Bundle ≠ 0, then User1 through User5 applies to the specified bundle.
- The Bundle data must be presented at the same time as the ORDER data to insure proper processing.

These fields are entered or downloaded on a per order basis.
(Bundle = 0)

* See BUNDLEIN.DEL for description
@ Required field

COIL Data

Field Name	Type	Size	Notes	Field ID
Action	Character	1	@ *	Action_
Coil Number	Character	16	@	Invcoil
Description	Character	40		Desc_
Date In	Character	10		Datein
Date Out	Character	10		Dateout
Start Length	Character	8	*	L_start
Length Used	Character	8	*	L_used
Status	Character	1	*	Status
Vendor	Character	30		Vendor
Material	Character	20 or 18 20	*	Material
Type	Character	10		Type
Cost Per Lb.	Character	9	*	Cost_lb
Nex Scrap	Character	9	*	Nex_scrap
Ex Scrap	Character	9	*	Ex_scrap
Other Adjust	Character	9	*	Oth_adjst
Weight	Character	10	*	Weight
Heat Number	Character	20		Heatnbr
Vendor Code	Character	16		Vendcode
Purchase Order #	Character	10		Purchord
SQL Status	Character	1	@ "N" = New record to process "C" = Eclipse done	Sqlstatus

* See COILIN.DEL for description
@ Required field

CUSTOMER Data

Field Name	Type	Size	Notes	Field ID
Action	Character	1	@*	Action_
Customer Code	Character	11	@	Custcode
Customer Name	Character	30	@	Name
Customer Address 1	Character	30		Address1
Customer Address 2	Character	30		Address2
Customer City	Character	30		City
Customer State	Character	2		State
Customer ZIP	Character	10		Zip
Customer Country	Character	3		Country
Shipping Instructions	Character	30		Shipinstru
Max Bundle Weight	Numeric	4,0		Maxbndlwt
Delivery Phone	Character	30		Delphone
E-mail address	Character	100		Emailaddr
SQL Status	Character	1	@ "N" = New record to process "C" = Eclipse done	Sqlstatus

Note: These items will be added to a customer table that can be automatically recalled by associating the customer code to an order.

* See CUSTOMER.DEL for description
@ Required field

MATERIAL Data

Field Name	Type	Size	Notes	Field ID
Action	Character	1	@*	Action_
Material	Character	20	@*	Material
Gauge	Numeric	2		Gauge
Thickness	Numeric	6,4		Thickness
Width	Numeric	6,3		Width
Color	Character	20		Color
Type	Character	10		Type
Cover	Numeric	7,3		Cover
Description	Character	40		Descript
Lb/Ft	Numeric	8,4		Lb_ft
Cost/Lb	Numeric	9,4		Cost_lb
Normal Length	Numeric	9,3		Normlngth
Reorder	Numeric	6		Reorder
Blank Sheet	Logical	1	T or F (no quotes)	Blanksheet
Blank Material	Character	1	'1' = Aluminum '2' = Copper '3' = Stainless '4' = Steel '5' = Zinc	Blankmatl
Clamp Position	Numeric	5,3		Cposition
Clamp Pressure	Numeric	3	As a percent	Cpressure
Overbend	Numeric	5,1	Degrees	Overbend
Radius Adjustment	Numeric	5,3		Radadjst
Hem Clamp Pressure	Numeric	3	As a percent	Hemclamp
SQL Status	Character	1	@ "N" = New record to process "C" = Eclipse done	Sqlstatus

* See MATERIALIN.DEL for description
@ Required field

PRODUCT Data

Field Name	Type	Size	Notes	Field ID
Action	Character	1	@*	Action_
Machine	Numeric	3	@	Machine
Product Code	Character	5 or 20	@*	Pcode
Description	Character	30		Desc_
Finished Width	Numeric	8,3		Finwidth
Staging Bay	Character	10		Stagebay
Loading Dock	Character	10		Loaddock
Hole Spacing	Numeric	8,3	*	Holespace
Calculate Length	Logical	1	*	Calclength
Hole Count	Logical	1	*	Holecount
Target Rate	Numeric	4		Ft_minutes
Coil Change Minutes	Numeric	6,3		Coilchgmin
Tool Change Minutes	Numeric	6,3		Toolchgmin
Tool Library	Character	25		Toollib
Setup Library	Character	25		Setuplib
Custom List	Character	40		Customlist
Axis Library	Character	25		Axislib
Preferred Machine	Logical	1	*	Preferred
Setup Instructions	Character	250		Setupinstr
Leg Height	Numeric	8,3		Legheight
Product Group	Character	20		Pcodegrp
SQL Status	Character	1	@ "N" = New record to process "C" = Eclipse done	Sqlstatus

* See PCODEIN.DEL for description
@ Required field

PRODUCTION Data

* = Required

Eclipse Field (Name)	Type	Size	Notes	SQL Field
Type*	C	1	1=General Production Record 2=Coil Change 3=Machine Started 4=Controller Turned On 5=Job Request 6=Controller Fault 7=Delay 8=Custom or Query List/Quality Audit Feedback C=Quality Audit Trigger S=Start of Shift E=End of Shift G=General Feedback Record	Type
Reason*	C	3	**For Type 1:** 'B' = Bundle halt 'O' = Out-of-orders halt 'C' = End of Coil 'H' = Manual halt 'I' = Inter-item, no halt 'M' = Manual shear, no halt 'P' = XL100/XL200 power off 'T' = Tolerance halt 'E' = Coil-end-point halt 'X' = Decrement quantity 'Y' = Increment quantity 'Z' = Coast to stop **For Type 2:** 'L' = Load coil 'D' = Delete coil 'R' = Return coil to inventory **For Type 8:** 'C' = Custom list 'Q' = Query list **For Type G:** 'R' = Order returned for changes 'D' = Order is done 'M' = Order sent to controller 'U' = Order recalled from controller 'C' = Coil inventory update	Reason

			For Type E and S:	
			'H' = Runtime record	
			'R' = Downtime record	
Date*	D	8	MM/DD/YY Date record created at Controller	Date_
Time*	C	8	HH:MM:SS Time record created at the controller	Time_
Minutes	N	13	Date and time converted to minutes since Jan. 1, 1980	Minutes
Production Date*	D	8	Shift Date	ProdDate
Shift*	C	1		Shift
Machine*	N	2	Unit number of controller (1-30)	Machine
Machine Description	C	30		Machdesc
Work Group	C	2		Wrkgroup
Order Number*	C	20		Order_
Material*	C	20		Material
Product Code*	C	20		Pcode
Customer Name	C	30		Custname
Work Order Nbr	C	18		Workorder
Order Type	C	1		Ordertype
Bundle*	N	3	Current bundle or lift (0 to 900) (900-999 refer to scrap codes)	Bundle
Quantity*	N	4	Number of pieces produced in this record	Qty
Item Length*	N	8,3	Length of part (0 to 3500.000 inches)	Length
Part Option*	C	1	'R' = Right-handed 'L' = Left-handed 'A' = Alternate 'M' = Mirror 'H' = Hole count	Option_
Part Number	C	30		Part_num
Pattern	N	3	Hole pattern for part (1 to 999) assigned by Eclipse	Pattern
Total Length*	N	11,3	Quantity x Item Length in inches	Totlength
Footage*	N	11,3	**For Type 1 and Reason <> "X":** Length run in inches since last type "1" **For Type 1 and Reason = "X":** Always zero.	Footage
Hole Offset	N	8,3		Offset
Hole Count	N	4,0		Holecount
InvCoil	C	16	Current coil inventory number	Invcoil
Coil Material	C	20		Coilmatl

Coil Width	N	6,3			Matlwidth
Lb. / Ft	N	6,3	Weight per foot of material specified in order		Lb_ft
Cost Per Lb.	N	5,2	Cost per pound of material specified in order		Cost_lb
Heat Number	C	20	Coil batch number		Heatnbr
Code Type*	C	1	**For Type 1:** 'S' = Scrap if Footage – Total Length <> zero **For Type 1 and reason = "M":** 'D' = Delay if duration is <> zero **For Type 2:** 'C' = if coil verification error **For Type 3, 7 and E:** 'D' = Delay if duration is <> zero		Code_type
Code Value*	C	3	**For Type 1:** Scrap code as defined by user **For Type 3, 7 and E:** Delay code as defined by user		Code_val
Code Description*	C	30	**For Type 1:** Scrap reason **For Type 2:** Coil verification error **For Type 3, 7 and E:** Delay reason		Code_desc
Code Exempt*	C	1	**For Type <> 2:** 'E' = Exempt 'N' = Non-exempt example: Non-plant or non operator-fault – scrap coil was damaged in shipment, delay scheduled maintenance		Code_exmpt
Code Responsibility Type	N	1	**For Type <> 2:** 0 = Not Specified 1 = Operational 2 = Equipment 3 = External		Code_resp
Machine Status	C	1	'R' = Running 'H' = Halted		Machstatus
Duration*	N	8,2	**For Type 1, 3, 7 and E:** Time in minutes since last type 1, 3, or 7 production message. Used for Runtime, Downtime and Exempt Time.		Duration
Runtime	N	8,2	**For Type 1 and (Type E with Reason = "H"):**		Runtime

			Duration In minutes	
Downtime	N	8,2	**For Type 3, 7, and (Type E and Reason = "R"):** In minutes if Delay is non-exempt	Downtime
Exempt Time	N	8,2	**For Type 3, 7, and (Type E and Reason = "R"):** In minutes if Delay is exempt	Exemptime
Good Footage	N	11,3	**For Type 1 and Reason <> "X":** Qty * Length in inches – (Excludes Decrement Qty. footage)	Good
Scrap Footage	N	11,3	**For Type 1 and Reason <> "X":** Total footage run minus good footage in inches if Scrap is non-exempt – (Excludes Decrement Qty. footage) **For Type G:** Adjustments to coil non-exempt scrap – for manual adjustments in Eclipse	Scrap
Exempt Scrap	N	11,3	**For Type 1 and Reason <> "X":** Total footage run minus good footage in inches if Scrap is exempt – (Excludes Decrement Qty. footage) **For Type G:** Adjustments to coil exempt scrap – for manual adjustments in Eclipse	Exmptscrap
Reclaimed	N	11,3	**For Type 1 and Reason = "X":** Qty * Length in inches – (Includes only Decrement Qty. footage)	Reclaimed
Actual Speed	N	8,3		Actspeed
Target Speed	N	8,3		Targspeed
Employee ID*	N	7		Employ_id
Name*	C	30	Employee name	Name
Tool Changes	N	1	0 = No, 1 = Yes	Toolchg
Material Changes	N	1	0 = No, 1 = Yes	Matlchg
Coil Changes	N	1	0 = No, 1 = Yes	Coilchg
Material Deviations	N	1	0 = No, 1 = Yes	Matldev
Item ID*	C	22	Identifier of item if item_id was sent to Eclipse – this value should relate back to your back-end system (AS400, etc.)	Item_id
List ID	N	10	**For Type 8 only:**	Listid

			Custom or Query list ID	
List Text	C	40	**For Type 8 only:**	Listtext
			Custom or Quality audit list text	
List Valid	C	30		Listvalid
Coil Start Length	N	11,3	**For Type G only:**	Startlngth
			Length of coil when loaded – for manual adjustments in Eclipse	
Coil Other Adjust	N	11,3	**For Type G only:**	Oth_adjst
			Miscellaneous adjustments to coil usage when loaded – for manual adjustments in Eclipse	
Bundle Code	C	15		Bndlecde
Plant Name*	C	30		Plantname
SQL Status*	C	1	"N" = New record to process	SQLStatus

Troubleshooting

Overcoming Problems

As with any software, Eclipse may stop working properly or communications between the PC and the controllers may cease.

In these rare cases, it is important to have a good process for troubleshooting to follow. The most likely error that will be experienced is a loss of communications with the controllers. The first section of this appendix discusses how to deal with communication problems. The second section of the appendix will look at other problems that can occur within Eclipse.

Communication Errors

When the computer is not communicating with the controllers, Eclipse-Comm will display an error message in its message box. Either "Echo Data Timeout" or "Timeout Error" will be displayed.

"Echo Data Timeout" Error Displayed on Eclipse-Comm

The "Echo Data Timeout" Error indicates no communication between the computer and the converter box. There are three possible causes for this error.

- Faulty connection between the computer and the converter box. Check the cable connections at the computer and at the converter box.

- No power to the converter box. Verify that the power supply is connected to the converter box and plugged into a 110 VAC outlet. The power supply applied 12VDC to the communication converter.

- The Communication port settings are incorrect. Check the port settings in the Eclipse (or Eclipse-Comm) program and verify that they correspond with the serial port that you are connected to.

"Time Out" Error Displayed on Eclipse-Comm

The "Time Out" Error indicates that the computer can communicate to the converter box but no data is received from the controller. Three causes for this error are likely.

- The power at the controller is turned off. Verify that proper power has been applied to the controller.

- The controller has not been set up with a unit ID number. Check the communications Setup screen and verify that a unit number has been entered into the Unit Number parameter. The same Unit ID number must also be entered in Eclipse under Machine Parameters and that machine must be set to active in the Eclipse setup window.

- The communications cable is not connected between the controller and the converter box. Verify the cable connections at the converter box and at the controller

Controller is shown as "Off Line" on Main Status Screen

If a single controller connected to the **XL-Link** is displaying an *Off Line* error, check the following:

- The power at the controller is turned off. Verify that proper power has been applied to the controller.

- The controller has not been set up with a unit ID number. Check the communications Setup screen and verify that a unit number has been entered into the Unit Number parameter. The same Unit ID number must also be entered in Eclipse under Machine Parameters and that machine must be set to active in the Eclipse setup window.

- Check the communication cable connection at this controller. Verify it is connected properly.

- The controller that is not communicating may contain faulty hardware. Disconnect all controllers and reinstall one controller at a time. Record at what point a controller failed to communicate.

- If possible, swap XL controllers. By changing controllers around, you can see if the problem follows the controller or if it stays at the console location.

Program Errors

Errors may appear while using Eclipse if the program or the computer is not shut down properly (powering off without first closing the program). If Eclipse is shut down with an active database, the files within the database can become corrupted.

Errors regarding the inability to open a particular file typically signify that a file has become corrupted. The "Rebuild Indexes" feature will need to be run to rebuild the corrupted files. This is found under "System Tools" in Eclipse. If these errors continue to occur, it is recommended to contact a Customer Service Technician at **AMS Controls, Inc**.

When calling AMS for assistance, be prepared to fax or email a copy of the *Error.txt* file that is found in the Eclipse directory. This file contains a record of all errors that have occurred in Eclipse for a specified period of time. AMS engineers can determine the problem with the information contained in the file.

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