Product Training
Product Structures and Engineering Change Control

Where "Lean" principles are considered common sense and are implemented with a passion!

winman
ADVANCED ERP SYSTEMS

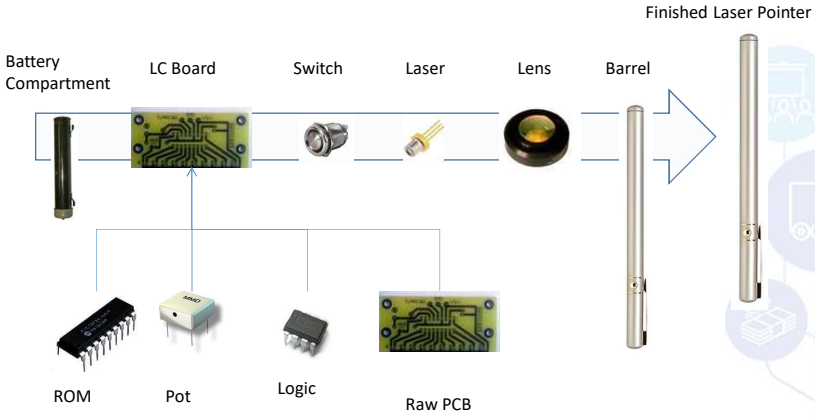
1

Product Structure Overview

A Product Structure is a top down view of the components and assemblies that are used to make an item. A recipe, formula and bill of materials are all product structures.

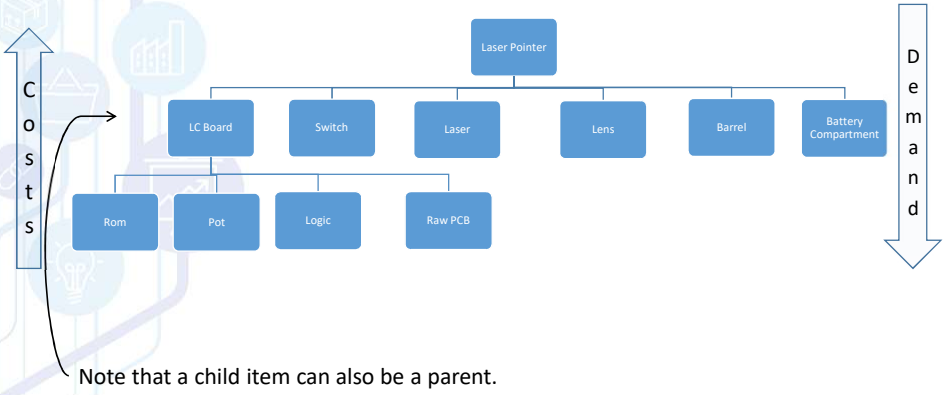
2

Product Structure Overview



3

Product Structure Overview



Note that a child item can also be a parent.

4

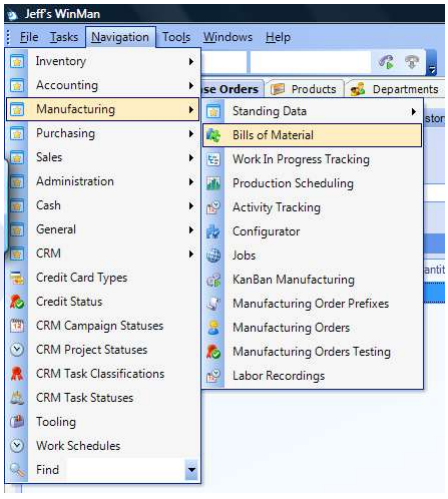
Product Structure Overview

Our Items

- ❑ Laser Pointer – 44-1000
- ❑ Battery Compartment – 44-2010
- ❑ Barrel – 44-2001
- ❑ Lens – 44-2015
- ❑ Laser – 44-2300
- ❑ Switch – 44-2303
- ❑ LC Board – 44-1500
- ❑ ROM – 44-2320
- ❑ Resistor POT – 44-2380
- ❑ Logic Chip – 44-2344
- ❑ Raw Board – 44-2350

5

Product Structure Navigation

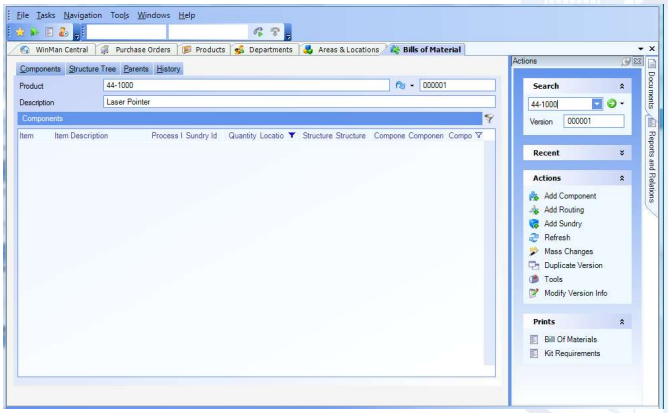


6

Product Structure Entry

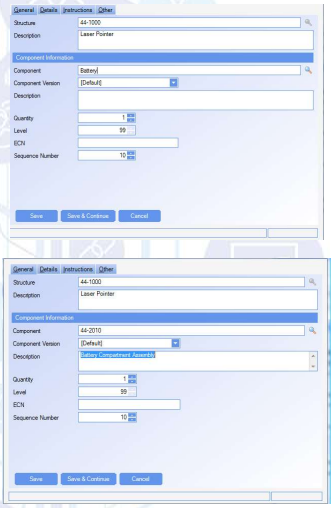
When you do a search the system will only bring up assemblies. If you don't see the item you expected, check its type.

For existing assemblies, the above screen will show the components and routing steps.



7

Product Structure Entry



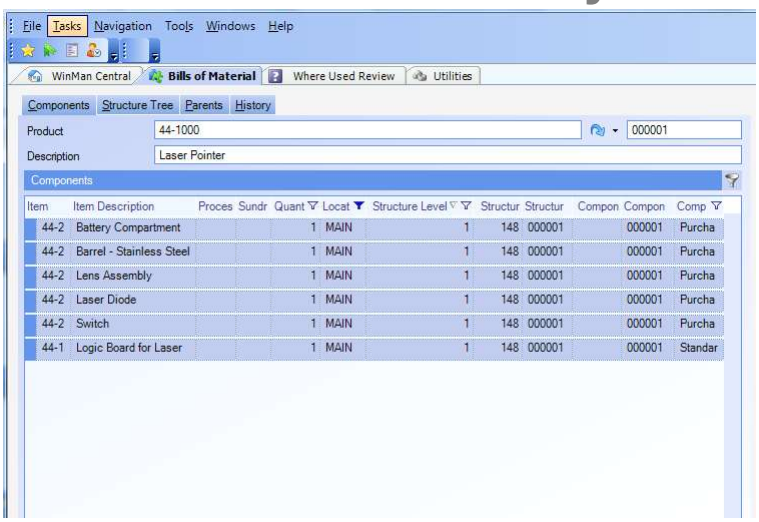
Click on "Add Component" to open the window shown above. All components for an assembly are entered on a single level basis. That is, children of children are entered on the child's product structure.

NOTE:
If you know the description you can enter that into the component field. When you tab out of the field it will update as shown on the right. This is true in many other places within WinMan such as customer names. If multiple items match a window will pop up for you to choose the correct item.

There are generally many components in a structure, this screen has a "Save and Continue" button. Clicking on this button saves the current entry and opens up a new input screen.

8

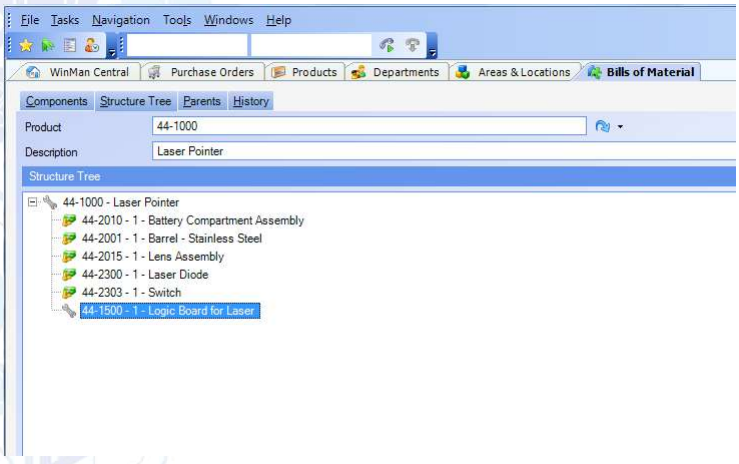
Product Structure Entry



This is the result of entering the all of the components for the Laser Pointer.

9

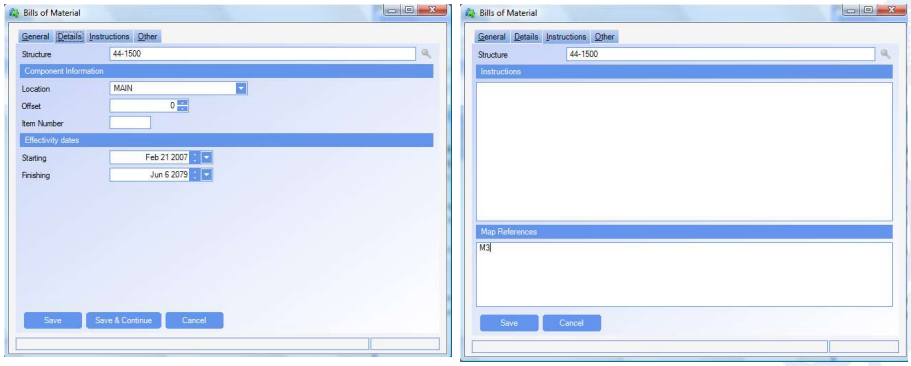
Product Structure Entry



The “Structure Tree” tab shows an exploded view of the assembly. Note the wrench next to the Logic Board (44-1500). This indicates that the component is an assembly. There are no components for it because we have not entered them yet.

10

Product Structure Entry

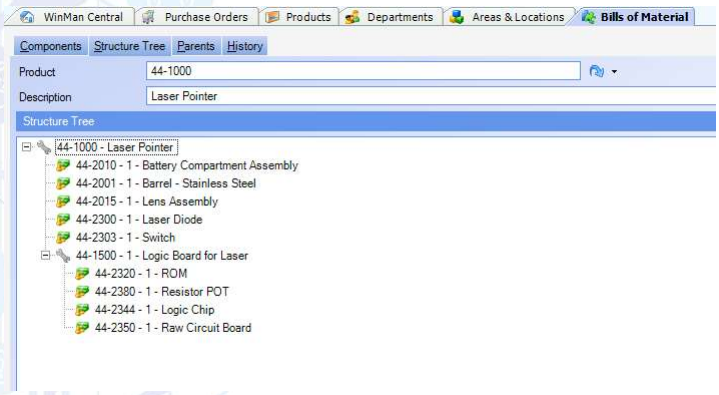


You can specify the picking location and lead time offset (we'll talk about that later). The item number is for sequencing.

Starting and Finishing date are very important. WinMan will not call for components that are not effective. If a component's starting date is before release date or finishing date is after the release date the component is ignored. Map Reference is also know as a Reference Designator.

11

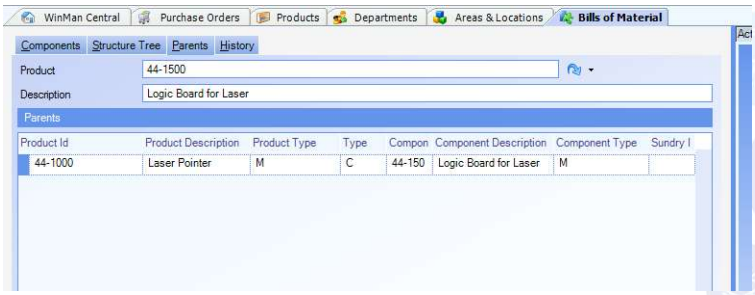
Product Structure Entry



Now that components have been added to the Logic Board we can see the full structure tree for the Laser Pointer.

12

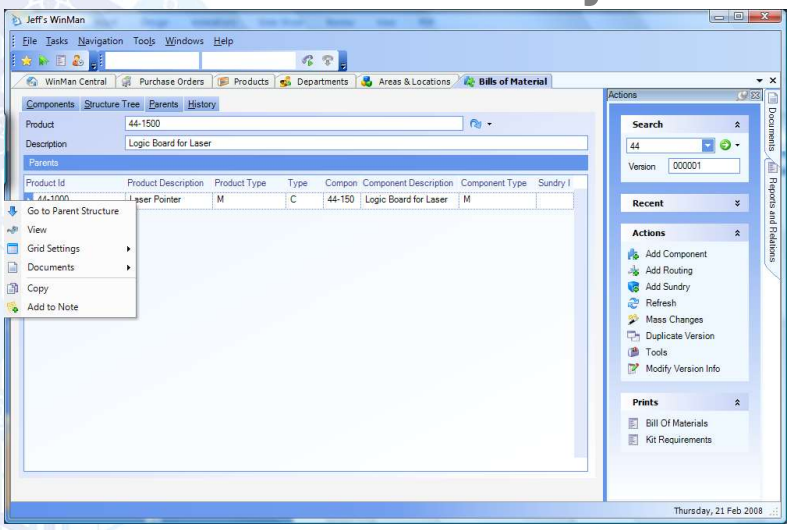
Product Structure Entry



The **"Parent Tab"** shows all of the assemblies that contain the Logic Board.

13

Product Structure Entry

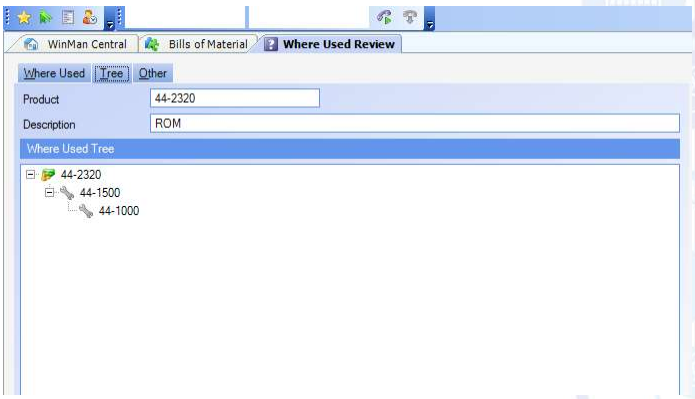


As is the WinMan norm, right clicking on the detail rows provides shortcuts.

14

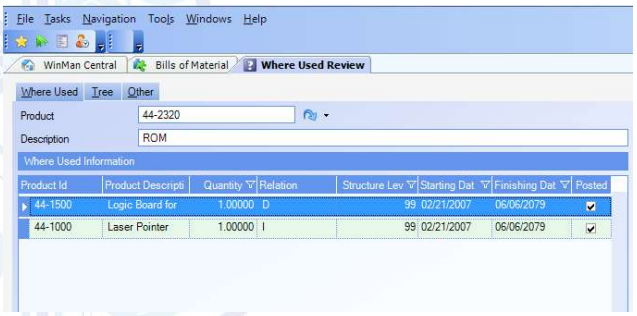
Where Used

Often, you will want to know what assemblies uses a specific component. The "Where Used" screen does that for you. In this case, the ROM, item # 44-2320 is used in subassembly 44-1500. It ends up in the final assembly 44-1000. This is the tree view.



15

Where Used



In the default view, each row shows an assembly that contains the selected component. The "Relation" column indicates if the assembly consumes the component or one of its ancestors. In this case, the first row shows contains a "D", indicating that it has a direct relationship with the component. This means that 44-1500 is a parent. The second row has a relation of "I", or indirect. From this we know the Laser Pointer contains an assembly that contains our component.

A component (or assembly) may have many parents.

16

Engineering Change Control

Many companies use product lifecycle management (PLM, also known as PDM for Product Data Management) to control their product releases. Those that do have those kinds of systems but want to tightly control the engineering change process rely on WinMan for control.

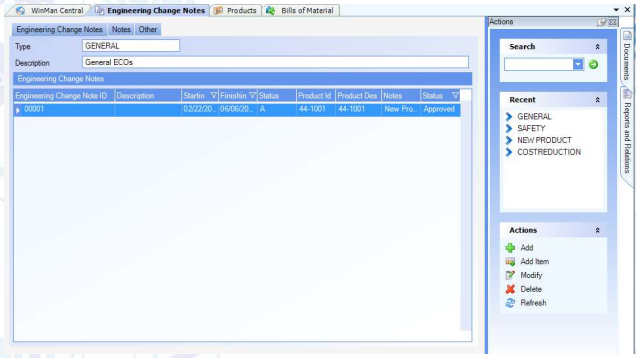
WinMan gives the user the option of controlling individual items through ECN control. You choose the items you wish to control and WinMan will enforce compliance.

Once an item is under Engineering Change Control, any change within products to the Product description, Type, Classification, ECN Version or Test type will require an ECN. An ECN is also required if any changes are made to the bill of Material for the item.

To begin, you must create an ECN.

17

Engineering Change Control



You can have different types of Engineering Change Notices. For instance, one might be for new products, another for cost reductions, another for safety related issues, etc.

A line item added to the ECN that is generally related specifically to the item affected by the ECN.

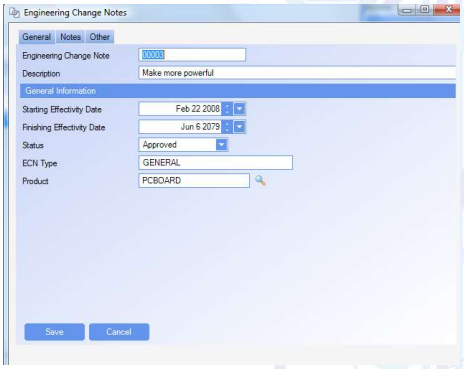
18

Engineering Change Control

If the product field is left blank, the ECN can be applied to any item number.

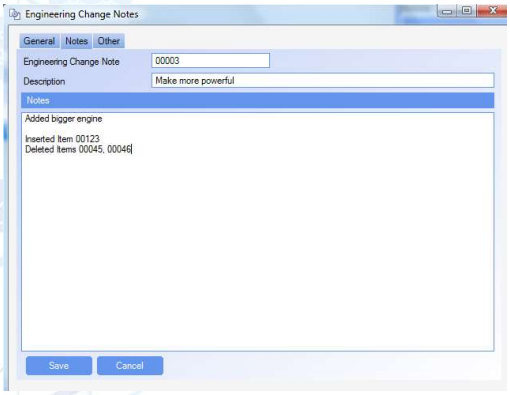
This is useful when adding new products under ECN control as typically there isn't a specific ECN for a brand new assembly.

SYSTEM SETTING:
When adding ECNs the default status is Pending. Only Approved ECNs can be selected in WinMan. The status can be used as a sign-off in cases where someone creating an ECN is different than the person signing off on the ECN. When no such approval is required, ECNs can be created with a default status of Approved. Use the Engineering Change Notes option **Default Engineering Change Notes System Type.** Enable this option and set to A for Approved.



19

Engineering Change Control



To make the ECN more meaningful and useful, you should add notes that detail the change. Remember, the ECN in WinMan provides some control, but it is mainly documentation.

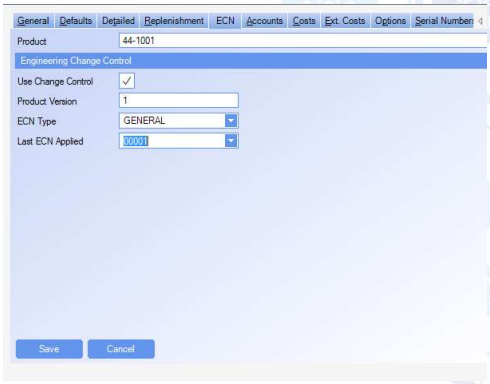
20

Engineering Change Control

To review, placing an item under ECN control requires the check box “Use Change Control” to be checked. You must also identify the ECN Type and the ECN to use. In the Last ECN Applied drop down, only approved ECN’s will appear.

Items that are under ECN Control also will require an ECN if any of the following fields in the product master are modified;

- Product Description
- Type
- Classification
- Test Types

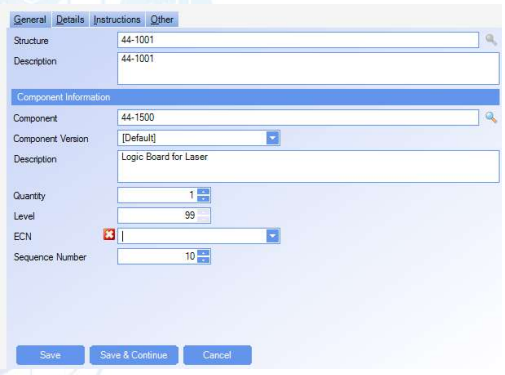


21

Engineering Change Control

When you add a component to an item under change control you must enter an ECN.

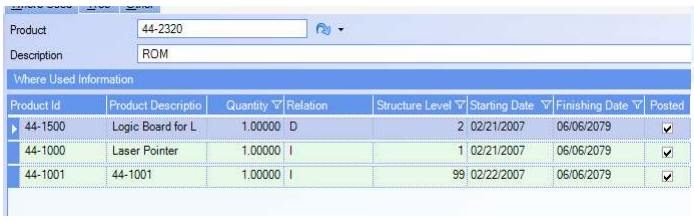
Notice the ECN number corresponds to the ECN that was put in for the parent.

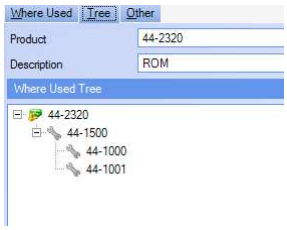


22

Product Structures

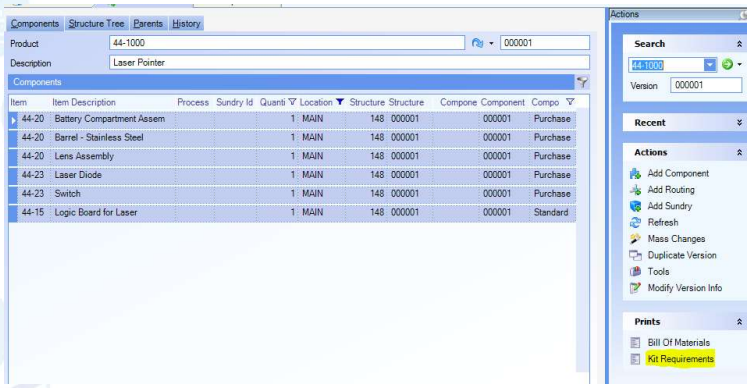
Now that we have two parents using the same logic board, here is what the “Where Used” report looks like for a child component.





23

Product Structures

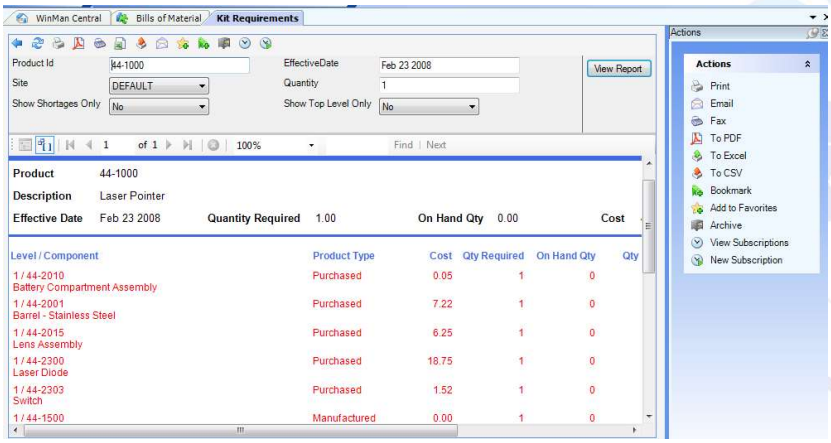


A finished structure also allows us to see what the kitting requirements are.

24

Product Structures

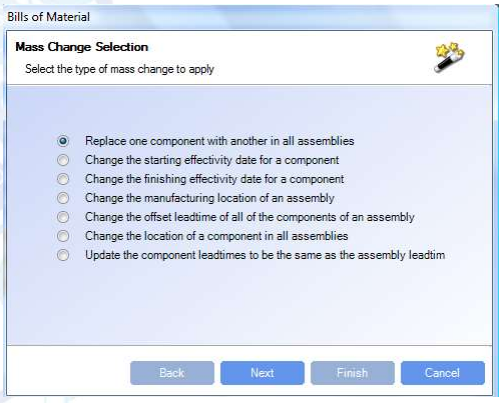
Notice that as with all reports, the output can be sent to a PDF file, email, etc.



25

Other Utilities

Mass changes to a structure can be done through the actions.



26