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## SHOP FLOOR

On the shop floor, the system empowers your employees and improves productivity by driving information and decisions down into your critical manufacturing operations. The built-in touch screen interface provides a vital link which streamlines communication with the shop floor.

It quickly and accurately communicates the production schedule to the shop floor. The window displays pictures, CAD screens and documents, and produces bar-coded labels at the touch of a finger.

The system enables employees to input data right on the floor - where the work is done. The data collected includes production counts, machine downtime, product defects, material yields and quality status, as well as labour hours and materials used for setup and maintenance. This information is constantly updated and available online, providing and up-to-the-minute analysis of production throughput, efficiencies and utilization.

The system increases production throughput by identifying the extra “hidden capacity” buried in overall downtime, and decreases operational expenses by eliminating non-value added clerical and tabulation tasks.
Prek

Shop Floor Module

1. **DLC** the Shop Floor icon from the Main Realtime Manufacturing icon group window.

   The Main Shop Floor touchscreen window will open (figure 3.1).

2. There are only 2 areas of the Main Screen, **STOP** and **START**.

   **STOP** will exit out of the Shop Floor Module
   
   **START** will open further into the Shop Floor Module

3. Touch anywhere in the upper **START** area and the Machine List screen opens. (figure 3.2)

   This is a listing of all locations that you have identified as being a machine location vs a storage location. (Main Administrative module, Setups, Location, **Type = Machine**).

   You can further define if you want a Machine to be visible in the Shop Floor list. Main Administrative module, Production Schedule, Policy, **Activate on Shop Floor = Yes**.

4. Touch on the Machine name to open the Shop Floor Schedule for that particular Machine.
The Shop Floor module is Work Order driven, which means that Job Completions and Material Issues can only be done in Shop Floor if the work has been previously scheduled in Production Scheduling.

Tying the production to the Work Order will yield valuable production data on that particular work order and the machine.

Option Buttons:
- Process
- Labor
- Schedule
- Inventory
- Exit

To select a button from the toolbar, SLC over the desired icon or touch the screen on the appropriate button.
SHOP FLOOR WORK ORDER

The Machine Main Screen displays summary information on the current Work Order (figure 3.4).

**Figure 3.4 Shop Floor, Machine Main, Work Order Status**

The Work Order Status area displays the following information:

- **Work Order number**
- **Due Date**
- **Start Date/Time**
- **Customer**
- **Destination**
- **Process ID**
- **Cycle Time**
- **Cycles/Hour**
- **Runtime** (includes Setup time)
- **Sales Order**

The **Note** Button allows for the operator to open and read a Work Order specific note.

**NOTE**

Downtime

Downtime applies to the Machine and the work order.

The Display Downtime and the Historical Trends both display information on the Machine NOT the individual work order.

Downtime information per work order can be generated in terms of a report.

**ENTER DOWNTIME**

This is where the operator can enter various downtimes that have been previously identified. (Main Monitor, Setups, Setups, Downtime Codes)

The password entry screen will appear and the operator needs to enter their operator’s code to gain entry to the Downtime window. (figure 3.5)
1. Select one of the Downtime Codes listed in the Choose Reason window.

2. Select the **Manual Entry** button and this will open a new window that allow the operator to enter downtime in hours and minutes. (figure 3.6)

3. Enter the Downtime amount in hours and/or minutes and select **Enter**.
DISPLAY DOWNTIME

This will open the Downtime for Today window (figure 3.7). A bar graph illustrates any downtime entered for the day against the machine.

Figure 3.7 Shop Floor, Machine Main, Work Order Downtime Today

Select the Historical Trends button to access Historical Downtime information for the machine. (figure 3.8)

Figure 3.8 Shop Floor, Machine Main, Work Order Downtime History
JOB COMPLETION

1. Touch anywhere on the Job Bar (figure 3.9) and the Completion window opens (figure 3.10).

The Completion window is the main interface for the operator to enter Job Completes and Defects against individual Work Orders.

The upper right area of the window displays all of the objects that have been job completed against the open work order. Using the horizontal scrollbar will allow the user to view further detail information on each of the job completes: Object creation Date and Time, Unique Serial number, Quantity, Operator, On Hand Quantity, Object status and more. This view is taken directly from the object table.

For another view, select the Audit Trail button and the object area will fill with information on those same objects, only taken from the Audit Trail table.

The packaging types for this part are listed in the window area below. The packaging type that is highlighted is the packaging type for that part which has been identified in the order.

You can change the packaging type by highlighting another packaging type in the list before you job complete. **The highlighted packaging type is the packaging that will be associated with the job complete.**
Any defects that have been identified against the open work order are listed on the bottom left window.

**Standard Pack**

The Standard Pack will be the quantity associated for the part with the particular package type that is highlighted.

**Change Standard Pack**

1. Select **Options** button.

2. Options window opens. Default radio button is highlighted to Change Standard Pack Quantity. Select **OK** button.


   ![Change Standard Pack Window](image)

4. Key in new Standard Pack Quantity and select **OK**. This will return the operator back to the Main Completion window.

**Note**

Change Standard Pack

After the Standard Pack has been changed, this change will be reflected in the Pack Qty listed in the middle left area of the screen.

This newly defined Standard Pack will remain the same for this work order until the standard pack is reset or is changed to another quantity or the operator exits the window.

If the standard pack has been changed and the operator exits the window, the change in the Standard Pack will have to be reentered if the operator exits and come back to the work order and wants to keep the changed pack quantity.

![Change Standard Pack Window](image)
Reset Standard Pack

1. Select **Options** button.

2. Options window opens with default radio button highlighted to Change Standard Pack Quantity. **Select radio button: Reset Standard Pack Quantity.**

3. Select **OK**. This will return the operator back to the Main Job Completion window.

   The pack qty will have been reset to the original standard pack quantity for that part with that packaging type.

Job Complete

1. Select **Complete** button.

2. The system will create a new object for the part and generate a barcode label. The newly created object will appear in the upper right area of the screen.

Deleting an Object

Objects can be Deleting by **Dragging and Dropping** them to the **Trash Can** icon. A system message prompts the user to confirm the Deletion. Select **Yes** to proceed with the Deletion.

Note

**Delete vs Scrap**

Objects should only be Deleted if they have been created in error. Example: the operator hits the Complete button one too many times. There is no physical object but the system has recorded a job complete and printed a label for a non-existent part.

Any physical object/part that has been created but is flawed should be scrapped and should have a defect code associated with it. This allows the defects to be tracked and further the value of the scrapped object can be identified.

Note

**Delete Permissions**

Administrators can define whether or not an operator has permission to Delete Objects on the Shop Floor.

These permissions are granted on a machine by machine basis. Main Administrative module, Production Scheduling, Policy
DEFECTS

Defects can only be entered in the Shop Floor module and can only be associated with a Work Order.

Defects codes are defined in the Main Administrative Module, Setups, Setups, Defect Codes. (Figure 3.11)

DEFECTS AUTO

1. Select the Defects Auto button.

2. The Auto Defects window opens and it displays the list of codes. Select the Defect Code you want. The selection will return the operator to the Job Completion window.

The Defect will be listed in the Defects Audit Trail window. Note: Defects Auto will only have a quantity of 1. There is no facility to change the quantity in Defects Auto.

ENTER DEFECTS

1. Select the Enter Defects button.

2. Select the Defect Code by highlighting it and then enter the quantity using the numeric keypad. (Figure 3.12)

3. Select the Enter button.

Repeat steps 1 and 2 until all of the various defects have been identified.

4. Select Exit button to return to the Job Completion screen. The Defects that the operator has just identified will be visible in the Defects Auto Trail window.
Figure 3.12 Shop Floor, Enter Defects

**NOTE**

**Clear Button**

To clear an entry in the Quantity field, Select the CLEAR button.

DISPLAY DEFECTS

1. Select the **Display Defects** button. The Defects for Today bar graph appears.(figure 3.13)

The graph represents any Defects entered against the machine for the day.
Selecting the Historical Trends button from the Defects Today screen (figure 3.13) opens another window displaying historical data on the defects entered against that machine (figure 3.14).

**Close or Complete a Work Order**

Check the Machine Policy settings, see note.

If the Job Change is set to **Auto Next**, the work order will be automatically closed when the required quantity has been reached and the next job/work order in sequence will be started.

If the Job Change is set to **Prompt User**, the operator will be asked whether they want to close the work order when the required quantity has been reached.
MACHINE SCHEDULE

1. **SLC** on the **Schedule** button (figure 3.15)

**Figure 3.15 Shop Floor, Machine Main Screen**

The job schedule window opens showing a listing of all of the work orders scheduled to that machine. Work orders are listed sequentially with the current work order (sequence 1) at the top with the flashing RealTime logo.

**Figure 3.16 Shop Floor, Machine Schedule**

**NOTE**

**Work Order Machine Schedule**

The Sequence order of the list of jobs/work orders is designated by the Production Scheduler.

The sequence is generated by the Machine Planning Board.

The operator will be able to start and stop jobs from here if the operator has been given the proper permissions. Main Realtime Administration, Production Schedule, Policy: "Start Stop Login" should be set to YES.
Change Machine Schedule

The operator can start and stop jobs on the Shop Floor. He can Stop the current job and then select another job to be designated as the current job (sequence number 1).

1. SLC on the work order that you would like to make the current work order for that machine. (figure 3.17)

2. SLC on the Start button.

3. The selected Job will now be in the sequence number 1 and the other jobs in the queue will be rescheduled accordingly.

Schedule Search

1. SLC on Search button. (figure 3.18)

2. A small windows appears over the schedule. (figure 3.18)

3. Key in Part and/or Work Order number and then hit Enter. The search result will be highlighted.
Schedule Sort

1. **SLC** on **Sort** button. (figure 3.19)

2. A new Sort window appears. Select the desired sort criteria: **Part, Work Order, Customer, Sales Order** or Default. SLC on the checkbox beside your choice.

3. The schedule will automatically sort the schedule by the sort criteria you have selected.

4. To return to the original sort choose Default Sort.
**KEY**

**RTM** RealTime Manufacturing  
**SLC** Single Left Click with a mouse  
**SRC** Single Right Click with a mouse  
**DLC** Double Left Click with a mouse  
**DRC** Double Right Click with a mouse  
**Tab** To Advance Cursor To Next Field

**PROCESS**

1. **SLC** on the **Process** button (figure 3.15)

   **Figure 3.20 Shop Floor, Machine, Main**

   ![Shop Floor, Machine, Main](image)

   **Figure 3.21 Shop Floor, Process**

   ![Shop Floor, Process](image)

   2. **SLC** on any of the documents listed to open the document. (figure 3.22)

   **NOTE**

   **Attaching Documents**

   Documents are associated through the Customer Service interface in the Main RealTime Administrative module. See Vol 2, Ch6 pg 83-87.

   Once the documents are attached, a listing of the documents associated with the part are viewable from the Part Master, Issue tab.

   2. The Document Viewer window opens. (figure 3.21) The window displays a list of all documents associated with all parts that have work orders scheduled to that particular machine.
LABOUR

The Labour interface allows the operators to log in and out thereby tracking labour hours against a work order and machine. The Part flow router defines the crew size and labour type associated with the manufacture of the part on any particular machine.

1. **SLC** on the **Labour** button (figure 3.15)

**NOTE**

**Labour Setups**

The Part flow router is where the machine crew size is defined. (Main RealTime Administration module, Setups, Parts, Flow Router)

The Labour codes and the hourly rates associated with them are defined in the Main RealTime Administration, Setups, Setups, Labour Codes.
2. The Labour Maintenance window opens (figure 3.24). The upper area of the window displays the current operators logged into the work order.

   The lower area of the window displays the various labour hours logged against the work order.

3. **SLC** on the **Log In/Out** button (figure 3.24)

4. This opens the **Operator Information** window (figure 3.25)
5. Type in the **operator password** and select the **Enter** button.

6. Repeat steps 1-5 to **Log Out**.

### INVENTORY

The primary inventory interface is used to Material Issue. The RealTime administrator can also grant the operator full access to the complete inventory module from the shop floor.

Component parts are material issued to individual work orders which allows management to track real vs standard usage.

1. **SLC** on the **Inventory** button (figure 3.26)

![Figure 3.26 Shop Floor, Machine Main, inventory](image)

2. The Machine Inventory/Material Issues window opens. (figure 3.27) The top area of the window displays:

   - **Machine**
   - **Machine Description**
   - **Production Part**
   - **No. of Lots**
The middle area of the window displays the component parts (Bill of Materials) for the work order. It also displays detail information on each of the component elements:

**Component Part**
**Description**
**Work Order Required Quantity**
**Work Order Completed Quantity**
**Unit of Measure**
**On Hand Quantity**
**Lot Quantity**

Note: On Hand Quantity is **GREEN** if there is sufficient inventory to material issue. On Hand Quantity is **RED** if there is a material shortage of the component part.

### Key
- **RTM**: Real Time Manufacturing
- **SLC**: Single Left Click with a mouse
- **SRC**: Single Right Click with a mouse
- **DLC**: Double Left Click with a mouse
- **DRC**: Double Right Click with a mouse
- **Tab**: To Advance Cursor To Next Field

**Figure 3.27 Shop Floor, Machine Main, inventory, Material Issue**

3. **SLC** on a component part. The component part will be highlighted in the upper area of the window and the detail information on that highlighted part will fill the lower area of the window.

The bottom left area of the window displays all of the **Available Inventory** for the highlighted component part. (see note)

The bottom right area of the window displays a listing of completed material issues to the present work order. The upper area of the **Material Issue Audit Trail** listing also notes the Total Issued Quantity.
Material Issue Drag and Drop

1. SLC on the object you want to Material Issue under the Available Inventory area of the window. DRAG AND DROP the object into the Material Issue Audit Trail area of the window. The Object will appear in the window when the issue is complete.

Material Issue Function Buttons

The centre area of the detail screen has 5 main function buttons:

(figure 3.28)

- Issue Lot
- Issue Total
- Issue Used
- Un Issue
- Scan

**Issue Lot**

The

1. SLC on the object you want to Material Issue under the Available Inventory area of the window.

2. SLC on the Issue Lot button