



Manufacturing Management Software

Shop Floor Data Collection (SFDC)

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Using SFDC

SFDC is the acronym for Shop Floor Data Collection. This section describes what SFDC means in Match-IT and how to use it.

1 What is SFDC?

The term *SFDC* in a Match-IT context refers to the facilities available to control works orders, once they have been approved, using simple bar-code readers.

This includes issuing and returning kit, logging operation progress and logging completed products; all in real-time.

The benefit of using SFDC is that it provides a straightforward, easy to use and accurate mechanism to get information on time and materials used to produce your products. You will be able to show your shop-floor staff how to use it in a few minutes. The impact on your shop-floor staff of having to log actions in this way is minimal, but the time saving on your 'back-room' staff can be dramatic.

This section describes the steps necessary to prepare to use SFDC and how to use it effectively.

2 What do I need?

All the required software is built-in to the system. This includes the ability to print bar-codes on appropriate documents, scan bar-codes from those documents and run the system in a mode where your shop-floor staff can log information.

All you need in addition to the Match-IT software are the bar-code reader devices and PC's to connect them to.

The PC can be any that is capable of running Match-IT; it doesn't need to be a very high spec so it could be a good use of your old 'cast-offs'.

The bar-code readers can be any that are capable of reading the **Code93** bar-code standard. These are readily available and nowadays typically connect into a USB port. If your PC has no USB ports, you can also get readers that 'T' into your keyboard cable.

The SFDC software in Match-IT can be driven from either a standard PC keyboard (as long as it has a numeric keypad), or just a numeric keypad, or a touch-screen. A mouse is not needed. The most convenient option is to use a touch-screen but this is also the most expensive solution. Using just a numeric keypad is also useful as the lack of a full keyboard reduces the scope for misuse of the PC. Numeric keypads are a popular accessory for notebook computers, so they are readily available.

3 What preparation is necessary?

Add workers to the user list:

Each of your shop-floor staff that are going to use the SFDC system must be identified to Match-IT and have a cost associated with them. This is done by adding a user record to Match-IT for each such staff member and tagging them as 'production worker's. If you want their time to contribute to production costs, you also need to associate a cost-per-hour to them.

To add an SFDC worker user, create a new user record (**functions, setup, setup users, new** in the standard menus) and check ☒ **Is Production Worker**. To stop them being able to do anything else within the system make sure they have no privileges by un-checking all the groups under **Groups**.


The cost-per-hour to associate with a worker can be a global one that applies to all, or a worker specific one, or a mixture. In all cases the costs are defined by associating a resource to the worker. The **Default Worker Resource** default (in the AS group) sets the resource whose cost will apply unless overridden in the worker user record. To use a worker specific cost, select the resource under **Cost Time As** on the **Costs** tab of the user record.


Add bar-codes to the paperwork:

All the standard Match-IT documents are pre-set to print appropriate bar-codes, so you do not need to do anything if you are using the standard documents. If you've designed your own documents, then you'll need to incorporate the appropriate bar-codes into the works order and the various flavours of batch labels.

Works orders:

In the case of the works order, there are three bar-codes: one identifies the whole works order, another identifies a particular step (or operation) within a works order and another identifies a particular output of the works order. The works order code is used when issuing or returning kit. The step code is used when logging time. The output code is used when logging completed products.

To set the works order bar-code; in the document designer, place a bar-code object on your paper (using the  tool) and set its data source to the variable `Header.wth.OrderBarCode` (by double clicking on the bar-code object you placed and selecting the Variable option). Only one of these is needed per works order.

The procedure to set an operation code in the document designer is somewhat different because you need one for each operation. First select the appropriate table from the report structure, for the standard documents this is the table named **StepStart**, then open the data line in that table where you want to place the bar-code. Use the  tool to add another column and select the `StepStart.wta.StepBarcode` field. This will add the operation bar-code to the table.

The procedure to set an output code is similar to that for an operation, as one is needed for each output (although there is usually only one output to a works order). Select the table named **Output**, then add the `Output.wti.BatchBarcode` field as required.



Batch labels:

The kit issue and return functions used in SFDC can recognise any of the following labels:

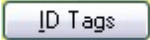

Goods-in label	use	<code>Label.ptg.BatchBarCode</code>
Inspection pass label	use	<code>Label.mtj.BatchBarCode</code>
Inspection fail label	use	<code>Label.mtj.BatchBarCode</code>
Batch label	use	<code>Label.mtj.BatchBarCode</code>

The procedure to place these bar-codes within the label is similar to placing the works order code described above.

Print user ID badges:

All the shop-floor staff that are going to use the SFDC system need to have a badge with a bar-code to identify them. These can be printed onto an A4 sheet, cut-up and laminated, or just stuck to a wall as a menu. The ID badges can be printed by going to the user list (**functions, setup, setup users** in the standard menus) and selecting the  button. Alternatively, to print a single badge, go into the detail for the user and on the **SFDC** tab select .

Print resource ID labels:

The SFDC system allows your shop-floor staff to override the planned resources for a job. The most convenient way to enable this is to print a bar-code 'menu' of all your resources and stick it on the wall near your scanning stations. To print a label for all your resources, go to the resource list (**functions, setup, setup resources, resource list** in the standard menus) and select . Or, to print a single label, go into the resource detail and on the **Actions** tab select .

Configure your reader to read Code93:

For some baffling reason, modern bar-code readers can be supplied with Code93 disabled. Match-IT uses Code93 for all its internal bar-codes, so the reader must be enabled to read them. Consult the documentation that came with your reader to enable Code93.

Decide on the length/width units to use:

To simplify the returning of dimensioned kit (e.g. bars/extrusions, sheets/plates), you can specify a constant unit of dimension to use. This allows just numbers to be entered and the units will be preset.

The factory default length/width units are *MilliMetres*. You can set any unit you like by changing the **Works Order Dimension Unit** default (in the WO group).

Decide on the time units to use:

To simplify the logging of time, you can specify a constant unit of time to use. This allows just numbers to be entered and the units will be preset.

The factory default time units are *Hours*. You can set any unit you like by changing the **Progress Time Units** default (in the WO group).

Decide if logging is optimistic or pessimistic:

When logging quantities the system will either pre-fill fields with the expected quantity (optimistic) or make them blank (pessimistic). Which is best for you depends on how you want to operate. Optimistic is useful if you only ever make one of something (e.g. prototypes) or usually do what you expect. Pessimistic is useful if you cannot predict quantities or want to force your operators to enter a number (this stops 'button-clickers' just banging through without thinking).

The factory setting is to be optimistic. You can set it pessimistic by changing the **Pessimistic Progress Logging** default (in the WO group).

Decide if 'end' logs must have a 'start':

When logging the end of a setup or a run you can specify whether a corresponding start-setup or start-run must have already been logged. The factory setting is to allow an 'end' log without a corresponding 'start'. If you run like this then the time must be entered when logging the 'end'. If you insist on a 'start' before an 'end' then the time is automatically calculated for you as the difference between the 'start' and 'end' log action times.

Use the **SFDC Allow end with no start** default (in the WO group) to change this setting.

4 How do I setup an SFDC station?

SFDC stations can be dedicated or operate in a dual role.

A dedicated SFDC station is one where Match-IT is configured to automatically start on the station and it can only perform SFDC actions and nothing else. The benefit of operating like this is that your staff cannot be distracted by the possibility of other functions and also, in this mode, the station is not consuming a user licence. In other words, you can have as many dedicated SFDC stations as you like, irrespective of the maximum number of users allowed on your licence.

A dual-role station allows SFDC and normal Match-IT action as well. Such stations do consume a user licence, so you are limited on how many of these you can have.

To setup a dedicated SFDC station, add a short-cut to your **Startup** program folder pointing at your `match_go.exe` program and add the `/SFDC` switch to its target. Starting Match-IT with the `/SFDC` switch causes it to start in SFDC mode without the need for a specific user to log-in. In this mode, any attempt to switch away to another application will not be tolerated for more than a few minutes before Match-IT grabs the 'focus' back. The time it will tolerate is controlled by the **SFDC Max Wait Time Before Reset** default (in the WO group).

To use SFDC along with other actions, just start Match-IT as usual and start the SFDC controller from the menu (**functions, manufacture, SFDC controller** in the standard menus). If you use SFDC like this you'll probably want to stop it continually re-grabbing the focus. Do this by setting the **SFDC Max Wait Time Before Reset** default to zero.

5 How do I use the reader?

WARNING: The SFDC controller is designed to be used with the numeric keypad and with num-lock on. Behaviour will be erratic if num-lock is off.

The general sequence in using the SFDC system is:

1. Scan your ID badge to identify yourself
2. Scan a works order or operation code or output code
3. Pick the action to be performed
4. Whatever further steps are required by that action

The first step is always the same; identify yourself. The identity scanned is used to tag the operation so you know who did it. The initial screen you will see in the SFDC controller will look similar to this:

The screenshot shows the 'SFDC Controller' window with two tabs: 'Worker' and 'Tools'. The 'Worker' tab is selected. The main area is titled 'Step 1 - Scan your ID badge'. Below this is a 'Date/Time Reference' section with a checkbox labeled 'Use real-time' which is checked. At the bottom left, there is a label 'Worker:' followed by a dropdown menu showing '...' and an empty text input field. On the right side, there is a section titled 'Use Keypad or Touch Screen' containing a numeric keypad. The keypad has the following layout:

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Hint: right-click and select **What's This?** on an item to get information on that item.

In the image above, the area on the right is a mimic of the numeric keypad on a standard keyboard. These are the only keys you need to use to operate SFDC. Depending on the page you are on (the page is indicated by the tabs, in the example above the **Worker** tab is selected) these keys adopt specific meanings. The mimic shows the keys as a number and also as an 'action' (more on these later). The 8, 4, 6 and 2 keys can also act as cursor motion keys when on a page that has more than one input control on it. In the example above, pressing the keypad 8 key will move the cursor up to the **Use real-time** control. The 4 and 6 keys then act as 'on' and 'off' actions.

When the focus is in the **Worker** field (as indicated by the flashing |), scanning your ID badge will identify you and move the controller on to the next page. It'll then look similar to this:

The screenshot shows the 'SFDC Controller' application window. It has three tabs: 'Worker', 'Document', and 'Tools'. The 'Document' tab is active, displaying 'Step 2 - Scan the document'. On the left, under 'For this Worker:', there is a dropdown menu showing 'Anonymous' and the text 'Active on: Nothing'. Below this, a red instruction box says: 'Scan the output to book-in. Scan the works order to issue or return kit. Scan the step/operation to log start/stop times and quantities.' Under 'Document:', there is another dropdown menu. At the bottom left, there are four checkboxes: 'Identify document by Scanning' (checked), 'Document is a Works Order', 'Document is a Step/Operation', and 'Document is an Output'. On the right, a 'Use Keypad or Touch Screen' keypad is visible. The keypad includes buttons for 'Num Lock', '/', '*', and '(Back) -'; a numeric keypad (7-9, 4-6, 1-3, 0, .); and functional buttons like 'Start Setup', 'Issue Kit', 'End Setup', 'Log On', 'Return Kit', 'Log Off', 'Start Run', 'Log Qty', 'End Run', 'Finish', and '(Next) Enter'.

The area in the top left shows a trace of what you've done so far, in this case it's showing the name associated with the ID you scanned. The area in the bottom left is where you enter information, either by scanning a code or pressing one of the action keys on the keypad.

With the focus in the **Document** field, scan one of the codes on an approved works order. What happens next will depend on what you scan. There are three possibilities: you scanned a works order code, you scanned an operation code or you scanned an output code. The image below shows part of a works order (using the default paper design) and indicates the code positions to scan. Only one code needs to be scanned.

Your Company Name

Works Order: 00000001 Page 1 of 1

Our Part No. **dual output test** Drawing No.

Customer Order **STOCK (of output 1 for 5/01/09)**

Scan this code to issue more kit to the works order, or return excess kit from a works order

KIT LIST (stock required)

Material	Description Location	Quantity Size	Batch Identification
kit item 1	kit item 1 StockRoom	1 Each	0000000033

STEP/OPERATION LIST (what to do)

Operation	Resource	Setup Time	Running Time	1st-off checked?
make it				
dual output test [make it]				
dual output test [stock it]				

Scan this code to perform an action on this operation - log time, log quantities

Part No.	Description Location	Expected Return Amount Size	Actual ret.
kit item 1	kit item 1 StockRoom		

OUTPUT LIST (stock created)

Part No. Bar-Code	Description Location	Expected Amount Size	Batch Number Actual Amount
dual output test	dual output test StockRoom	1 Each	0000000028
output 1			0000000030
output 2			0000031

Scan this code to book-in completed products and outputs from the works order

5.1 Works order actions

When you scan a works order code, the controller will move on to the next page which will look something like this:

SFDC Controller

Worker | Document | Order Action | Tools

Step 3 - Enter the action you are doing

For this Worker:

and this Works Order:

Press/Touch Key for the action

- ☐ 8 - ISSUE KIT
- ☐ 5 - RETURN KIT
- ☒ 2 - BOOK-IN COMPLETED PRODUCTS

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

There are three actions available on works orders: issue more kit, return unused kit or book-in completed products (NB: you cannot book-in side-effect outputs from here, only the main product). Pressing the appropriate keypad key will initiate the action and move the controller on to the appropriate page.

5.1.1 Issue kit

Selecting the **issue kit** option will move the controller on to a page that looks similar to this:

Note: You only need to issue kit that is in some sense 'extra' to what you would normally use. The kit defined in the method for the product is automatically issued when the works order is approved (unless you approved it as a 'back-flush' order).

To issue kit to a works order, scan the code on the label that is attached to the kit batch. The label can be a goods-in label or an inspection label or a batch label. What happens next depends on whether the batch you scanned is 'ambiguous' or not. An ambiguous batch is one where there is more than one batch record with the same batch number and you have not distinguished them by giving them a unique instance name. Returning off-cuts typically creates ambiguous batches.

When an ambiguous batch is scanned a dialog will open showing you all the batches with the same number. Use this to pick the specific batch you want. You do this by typing the line number in the list you want then pressing **Enter**.

The dialog that opens to allow you to pick an instance will look similar to this:

Line	Batch#	Instance#	In Stock Qty & Size
001	0000000029		1 Bars of 3 Mtrs (1.68 Kgs)
002	0000000029		1 Bars of 400 mm (224 q)
003	0000000029		1 Bars of 500 mm (280 q)
004	0000000029		1 Bars of 200 mm (112 q)

Type the line number you want below then press Enter (or click Pick)

? Pick this Line: 001 [Pick] [View] [Cancel]

Once you've scanned (and picked) a batch, the controller will move on to the next page, which will look similar to this:

SFDC Controller

Worker | Document | Order Action | **Issue Kit** | Kit Quantity | Tools

Step 5 - Enter the issue quantity

For this Worker:
[...] Anonymous

and this Works Order:
[...] 0000000003 —((1877))

Issuing kit from this batch:
[...] 0000000029 —((STB01518))

from available quantity and size of:
[...] 1 Bars of 3 Mtrs (1.68 Kgs)

Issue This Quantity:
[...] 1 Bars
(enter the number of pieces)

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Enter the quantity of the batch you want to issue and press **Next**.

Note: Only whole items can be issued like this. If you only want part of a piece, then issue the whole piece, cut off what you want and return the excess (using the return kit facility described later).

The final page asks for a confirmation, it looks like this:

SFDC Controller

Worker | Document | Order Action | Issue Kit | Kit Quantity | Confirm Kit Issue | Tools

Step 6 - Confirm kit issue quantity

For this Worker:

and this Works Order:

Issuing kit from this batch:

from available quantity and size of:

Issuing this quantity:

Press the zero key (0) to Finish

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the issue. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Once you confirm the action, the associated material is moved out of stock and into WIP. It'll also appear in the kit list for the works order.

5.1.2 Return kit

Selecting the **return kit** option will move the controller on to a page that looks similar to this:

The screenshot shows the 'SFDC Controller' application window with the 'Return Kit' tab selected. The interface is divided into two main sections: 'Step 4 - Scan the return kit label' on the left and 'Use Keypad or Touch Screen' on the right.

Step 4 - Scan the return kit label

For this Worker:

and this Works Order:

Scan the returned kit label to return some of that from this works order.

Batch:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

To return unused kit to stock, scan the label on the kit batch you are returning. This will usually be the same label you scanned when issuing the kit. The handling of 'ambiguous' batches described in the issue kit sequence also applies here.

Once you've scanned (and picked) a batch, the controller will move on to the next page, which will look similar to this:

SFDC Controller

Worker | Document | Order Action | Return Kit | Return Quantity | Tools

Step 5a - Enter the return quantity

For this Worker:

and this Works Order:

Returning kit from this batch:

Return This Quantity:

 (enter the number of pieces)
 (**** NOT THEIR SIZE ****)

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Enter the number of pieces you are returning then press **Next**. By 'pieces' here we mean the physical number of items you have in your hand of a particular size. The size is only relevant if you are returning an off-cut from a 1D or 2D material. In that context, you must make a separate return for each different size you are returning.

The controller will move on to a page that is dependent on the dimensionality of the material you are returning. For a 2D material, you will be asked to enter a length then a width. For a 1D material you will be asked to enter a length. For a 0D material you will move straight to the confirmation page.

Specifying a return length:

The page asking for a length will look similar to this:

Step 5b - Enter the return length

For this Worker:

and this Works Order:

Returning kit from this batch:

returning this quantity:

Return This Length:

 (enter Length in MilliMetre)

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	(X)
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	(checkmark)
Finish 0	.	(Next) Enter	

Enter the length of the pieces you are returning. The number entered should be in the units indicated (*MilliMetres* in this example). These units will be preset to those you defined in your preparation provided they are meaningful for the material. If not, the natural units for the material will be expected (e.g. if it's a liquid measured in litres). In all cases the hint will show what is expected.

Pressing **Next** will move you on to the next page. For a 2D material that will be one asking for a width, for a 1D material it will be the final confirmation page.

Specifying a return width:

The page asking for a width will look similar to this:

SFDC Controller

Worker | Document | Order Action | Return Kit | Return Quantity | Return Length | Return Width | Tools

Step 5c - Enter the return width

For this Worker:

and this Works Order:

Returning kit from this batch:

returning this quantity:

and this length:

Return This Width:

(enter Width in MilliMetre)

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Enter the width of the pieces you are returning and press **Next**. The discussion about units given above also applies here. The controller will move on to the final confirmation page.

Confirming the return:

The page asking for a final confirmation will look similar to this:

SFDC Controller

Worker | Document | Order Action | Return Kit | Return Quantity | Return Length | Return Width | Confirm Kit Return

Step 6 - Confirm kit return quantity

For this Worker:

and this Works Order:

Returning kit from this batch:

returning this quantity:

and this length: by this width:

Press the zero key (0) to Finish

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the return. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Once you confirm this action, a batch record will be created for the return and it will appear in the returns list for the works order.

5.1.3 Book-in completed products

Selecting the book-in products option is an alternative way to book-in the main product. It is the same as selecting the main product from the output list. See Book-in an output.

5.2 Operation/step actions

When you scan an operation code, the controller will move on to the next page, which will look something like this:

The screenshot shows the SFDC Controller software interface. At the top, there are tabs for Worker, Document, Resource1, and Tools. The main window is titled "Step 3a - Scan the resource involved". On the left, there are three input fields: "For this Worker:" with a dropdown menu showing "Anonymous", "and this Works Order:" with a dropdown menu showing "0000000001 --((1877))", and "and this Step/Operation:" with a dropdown menu showing "1877 [Turn Complete]". Below these fields, there is a section titled "Primary Resource:" with a dropdown menu showing "Citizen LN20 M1" and the text "(usually the machine)". On the right, there is a section titled "Use Keypad or Touch Screen" which contains a numeric keypad with various function buttons. The keypad includes buttons for "Num Lock", "/", "Shut Down *", "(Back) -", "Start Setup 7", "Issue Kit 8", "End Setup 9", a red "X" button, "Log On 4", "Return Kit 5", "Log Off 6", "(Clear) +", "Start Run 1", "Log Qty 2", "End Run 3", a green checkmark button, "Finish 0", ".", and "(Next) Enter".

This page gives you the opportunity to override the planned resource for the operation. Do this by scanning the resource code from the menu you printed during your preparation. If you are not overriding the resource, just press **Next**.

Where you go next will depend on the resources associated with the operation. If the operation has more than one resource associated with it (e.g. if a setter/runner is specified as well as a machine), you will be shown a page like the one below to allow you to specify what is actually being used.

SFDC Controller

Worker | Document | Resource1 | Resource2 | **Tools**

Step 3b - Scan the other resource involved Use Keypad or Touch Screen

For this Worker:

Anonymous

and this Works Order:

0000000003 —((1877))

and this Step/Operation:

1877 [Turn Complete]

and these resources (primary and secondary):

Citizen LN20 M1

Secondary Resource:

Labour

(usually the operator - i.e. you)
(clear it if you don't want to log this)

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Either scan the resource you are using or press **Next** to move on.

After specifying the resources you will be shown a page like the one below. This allows you to specify what it is you are about to do or have just done.

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | Tools

Step 4 - Enter the action you are doing

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

Press/Touch Key for the action

- ☐ 7 - START SETUP
- ☐ 9 - END SETUP
- ☐ 1 - START RUN
 - ☐ 4 - LOG ON
 - ☐ 6 - LOG OFF
 - ☐ 2 - LOG a QUANTITY
- ☒ 3 - END RUN

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the key associated with the operation you are about to do or have just done to move on.

5.2.1 Start Setup

Selecting the **start setup** option will move the controller on to a page that looks similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | Confirm Action | Tools

Step 5 - Confirm action

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

Press the zero key (0) to Finish

START SETUP at 11:14 on 27/08/08

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the **start setup** action. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Using this option tells the system that the worker who scanned this operation has started to set the operation. The time the setup started, who started it and what resource(s) they are using is logged against the works order. You can see these logs by looking at the progress on the works order (see later).

5.2.2 End Setup

Selecting the **end setup** option will move the controller on to a page that looks similar to this:

This shows you the elapsed time since the start setup action was logged to now. If you want to log the entire elapsed time to the setup just press **Next**. Otherwise enter the amount of time you wish to log in the units indicated (in this example it's *Hours*). Note: You are logging time against the primary resource here (usually the machine).

When you press **Next**, the controller will move on to a page that is dependent on the resources associated with the operation being logged. When a secondary resource is involved (e.g. a setter) you will be asked to enter your time (as the setter), which may be different to the machine (primary) time (because you were doing other things at the same time). When there is no secondary resource you will move straight to the confirmation page.

Specifying your setting time:

The page asking for your setting time will look similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | End Setup Time | **My Set Time** | Tools

Step 5b - Enter my set time

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

and these set times (machine and mine):

My Set Time To Log:

 (enter your time in Hours)
 Elapsed time is 3 hrs 41 mins

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

This shows you the elapsed time since you logged onto the setup and now. If you want to log the entire elapsed time as your time, just press **Next**. Otherwise enter the amount of time you wish to log in the units indicated (in this example it's *Hours*). Note: You are logging time against the secondary resource here (usually a person).

When you press **Next**, the controller will move on to the confirmation page.

The page asking for confirmation of the end setup will look similar to this:

Step 6 - Confirm end setup

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

and these set times (machine and mine):

Press the zero key (0) to Finish

END SETUP at 14:55 on 27/08/08

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the end setup action. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Using this option tells the system that the worker who scanned this operation has stopped the setting of the operation. Note: This does not necessarily mean the setup is complete, it just means you are stopping it (because you are going home for example). The time the setup stopped, who stopped it and what resource(s) they used is logged against the works order.

When the setup is complete, you must then tell the system when you start to run the operation. Until you do that the resources involved, although ready, are idle and doing nothing as far as Match-IT is concerned. Use the **start run** action to start the operation (see below).

5.2.3 Start Run

Selecting the **start run** option will move the controller on to a page that looks similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | Confirm Action | Tools

Step 5 - Confirm action

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

Press the zero key (0) to Finish

START RUN at 15:03 on 27/08/08

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	✗
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the **start run** action. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Using this option tells the system that the worker who scanned this operation has started to run the operation. The time the run started, who started it and what resource(s) they are using is logged against the works order. You can see these logs by looking at the progress on the works order (see later).

5.2.4 Log On

Selecting the **log on** option will move the controller on to a page that looks similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | Confirm Action | Tools

Step 5 - Confirm action

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

Press the zero key (0) to Finish

LOG ON at 15:04 on 27/08/08

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the log on action. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Using this option tells the system that you are adding yourself to an already running operation as a 'helper'. There can be any number of 'helpers' logged-on to an operation. All helpers contribute time to the operation (and hence cost).

5.2.5 Log Off

Selecting the **log off** option will move the controller on to a page that looks similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | **Log Off Run Time** | Tools

Step 5 - Enter log off run time

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

My Run Time To Log:

(enter log time in Hours)
 Elapsed time is 13 mins
 LOG OFF at 15:17 on 27/08/08

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	✗
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

This shows you the elapsed time since you logged onto the operation and now. If you want to log the entire elapsed time as your time, just press **Next**. Otherwise enter the amount of time you wish to log in the units indicated (in this example it's *Hours*). Note: You are logging time against the secondary resource here (usually a person).

When you press **Next**, the controller will move on to the confirmation page.

The page asking for confirmation of the log off will look similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | Log Off Run Time | Confirm Log Off | Tools

Step 6 - Confirm log off

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

and this run time:

Press the zero key (0) to Finish

LOG OFF at 15:17 on 27/08/08

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the log off action. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Using this option tells the system that you are removing yourself from a running operation. Doing this does not stop the operation; it will continue to run in your absence as far as Match-IT is concerned. This is typically used for an automated operation that does not need any operator attendance once it is set and running.

5.2.6 Log a Quantity

Selecting the **log a quantity** option will move the controller on to a page that looks similar to this:

The screenshot shows the SFDC Controller interface. At the top, there are tabs: Worker, Document, Resource1, Resource2, Step Action, End Good Quantity, and Tools. The 'End Good Quantity' tab is selected. The main area is titled 'Step 5 - Enter log good quantity'. It contains several input fields for data entry:

- For this Worker:** A dropdown menu showing 'Anonymous'.
- and this Works Order:** A dropdown menu showing '0000000003 —((1877))'.
- and this Step/Operation:** A dropdown menu showing '1877 [Turn Complete]'.
- and these resources (primary and secondary):** Two dropdown menus showing 'Citizen LN20 M1' and 'Labour'.

Below these fields, there is a section titled 'Good Quantity To Log:' with a dropdown menu showing '1,000 Each' and a note '(leave blank if none are good)'. To the right of the input fields is a keypad titled 'Use Keypad or Touch Screen'. The keypad contains the following buttons:

- Num Lock, /, Shut Down (*), (Back) (-)
- Start Setup (7), Issue Kit (8), End Setup (9), (X)
- Log On (4), Return Kit (5), Log Off (6), (Clear) (+)
- Start Run (1), Log Qty (2), End Run (3), (Next) Enter (checkmark)
- Finish (0), ., (Next) Enter (checkmark)

This is exactly the same as the *end quantity* page associated with the end run option.

Enter the quantity you have completed on this operation, or leave it blank if you do not want to specify this, then press **Next**.

Note: The quantity you enter here should be the quantity you consider to be 'good' and are passing on to the next stage in manufacture.

After you have entered the good quantity you will be asked if you want to log any failures in exactly the same way as for the end run option, the page will look similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | End Good Quantity | End Failures | Tools

Step 6 - Enter log failures

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

and these quantities (passed and failed):

Failed Quantity To Log:

(leave blank if none failed)
 (leave blank if being inspected later)
 Booking LESS than expected
 Expected [1,000 Each]

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Any quantity you enter here will be put into stock and marked as 'failed'. This will trigger the usual quality control procedures and create a diary entry to create an NCR (non-conformance report).

Enter the quantity you want to fail on this operation, or leave it blank if you are not failing any, then press **Next**.

The final page in the **log a quantity** action asks you to confirm your entries; it will look similar to this:

SFDC Controller

Document | Resource1 | Resource2 | Step Action | Log Good Quantity | Log Failures | Confirm Log Quantity | Tools

Step 7 - Confirm log quantity

For this Worker:

... worker

and this Works Order:

... 0000000003 —((1877))

and this Step/Operation:

... 1877 [Turn Complete]

and these resources (primary and secondary):

... Citizen LN20 M1 ... Labour

and these quantities (passed and failed):

... 30 Each ...

Press the zero key (0) to Finish

Booking LESS than expected
Expected [1,000 Each]

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	✗
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the **log a quantity** action. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Using this option only logs the completion of some quantity; it does not log any time to the operation. This is useful for self-running operations that you 'mind' from time to time and log whatever is completed at the time.

5.2.7 End Run

Selecting the **end run** option will move the controller on to a page that looks similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | End Good Quantity | Tools

Step 5 - Enter end run good quantity

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

Good Quantity To Log:

 (leave blank if none are good)

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Enter the quantity you have completed on this operation, or leave it blank if you do not want to specify this, then press **Next**.

Note: The quantity you enter here should be the quantity you consider to be 'good' and are passing on to the next stage in manufacture.

After you have entered the good quantity you are asked if you want to log any failures, the page will look similar to this:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | End Good Quantity | End Failures | Tools

Step 6 - Enter end run failures

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

and these quantities (passed and failed):

Failed Quantity To Log:

(leave blank if none failed)
 (leave blank if being inspected later)
 Booking LESS than expected
 Expected [970 Each]

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Any quantity you enter here will be put into stock and marked as 'failed'. This will trigger the usual quality control procedures and create a diary entry to create an NCR (non-conformance report).

Enter the quantity you want to fail on this operation, or leave it blank if you are not failing any, then press **Next**.

After entering the end-run quantities you will be asked to specify the running time used. A page similar to this will be shown:

SFDC Controller

Worker | Document | Resource1 | Resource2 | Step Action | End Good Quantity | End Failures | End Run Time

Step 7a - Enter end run time

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

and these quantities (passed and failed):

Machine Time To Log:

(enter run time in Hours)
 Elapsed time is 1 hrs 40 mins
 Booking LESS than expected
 Expected [970 Each]

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

This shows you the elapsed time since the start run action was logged to now. If you want to log the entire elapsed time to the run just press **Next**. Otherwise enter the amount of time you wish to log in the units indicated (in this example it's *Hours*). Note: You are logging time against the primary resource here (usually the machine).

When you press **Next**, the controller will move on to a page that is dependent on the resources associated with the operation being logged. When a secondary resource is involved (e.g. an operator) you will be asked to enter your time (as the operator), which may be different to the machine (primary) time (because you were doing other things at the same time). When there is no secondary resource you will move straight to the confirmation page.

Specifying your running time:

The page asking for your running time will look similar to this:

SFDC Controller

Resource1 | Resource2 | Step Action | End Good Quantity | End Failures | End Run Time | **My Run Time** | Tools

Step 7b - Enter my run time

For this Worker:

and this Works Order:

and this Step/Operation:

and these resources (primary and secondary):

and these quantities (passed and failed):

and these run times (machine and mine):

My Run Time To Log:

(enter your time in Hours)
 Elapsed time is 1 hrs 40 mins

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

This shows you the elapsed time since you logged onto the operation and now. If you want to log the entire elapsed time as your time, just press **Next**. Otherwise enter the amount of time you wish to log in the units indicated (in this example it's *Hours*). Note: You are logging time against the secondary resource here (usually a person).

When you press **Next**, the controller will move on to the confirmation page.

The final page in the **end run** action asks you to confirm your entries; it will look similar to this:

SFDC Controller

Resource2 | Step Action | End Good Quantity | End Failures | End Run Time | My Run Time | Confirm End Run

Step 8 - Confirm end run

For this Worker:

... Anonymous

and this Works Order:

... 0000000003 —((1877))

and this Step/Operation:

... 1877 [Turn Complete]

and these resources (primary and secondary):

... Citizen LN20 M1 ... Labour

and these quantities (passed and failed):

... 850 Each ...

and these run times (machine and mine):

... 1.666 Hrs ... 1.666 Hrs

Press the zero key (0) to Finish

**Booking LESS than expected
Expected [970 Each]**

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	(X)
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	(Checkmark)
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the **end run** action. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Using this option tells the system that the worker who scanned this operation has stopped the running of the operation. Note: This does not necessarily mean the operation is complete, it just means you are stopping it (because you are going home for example). The time the operation stopped, who stopped it and what resource(s) it used is logged against the works order.

Note: Any additional 'helpers' logged-on to the operation are also logged-off when the operation stops. I.e. stopping the run makes the whole operation become idle as far as Match-IT is concerned.

5.3 Book-in an output

When you scan an output code, the controller will move on to the next page, which will look something like this:

SFDC Controller

Worker | Document | Order Action | Issue Kit | Good Products | Tools

Step 4 - Enter good book-in quantity

For this Worker:

and this Works Order:

booking in this product:

Book-In Quantity Passed:

(leave blank if none are good)

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Enter the number of 'good' products, that is those that you want to put into stock as usable, then press **Next**. If you are only booking-in failed products, then leave this field blank.

NB: The term *output* and *product* are synonymous. The former is most often used when there are multiple outputs from a works order. The latter is typically used to refer to the main output of a works order (also referred to as the '*container*', especially when there are multiple outputs).

The controller will move on to the next page that will look similar to this:

SFDC Controller

Worker | Document | Order Action | Issue Kit | Good Products | Failed Products | Tools

Step 5 - Enter failed quantity

For this Worker:

and this Works Order:

booking in this product:

and this good quantity:

Book-In Quantity Failed:

(leave blank if none failed)
 (leave blank if being inspected later)
 Booking MORE than expected
 Expected [none]

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back)
Start Setup 7	Issue Kit 8	End Setup 9	X
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Enter the quantity of failures you want to book-in, leave blank if you have no failures or someone else is going to inspect them later, then press **Next**.

The controller will move on to the final confirmation page, which will look similar to this:

SFDC Controller

Worker | Document | Order Action | Good Products | Failed Products | Confirm Book-in | **Tools**

Step 6 - Confirm book-in quantities

For this Worker:

and this Works Order:

booking in this product:

and this good quantity:

and this failed quantity:

Press the zero key (0) to Finish

Booking LESS than expected
Expected [1,000 Each]

Scan Command:

Use Keypad or Touch Screen

Num Lock	/	Shut Down *	(Back) -
Start Setup 7	Issue Kit 8	End Setup 9	✗
Log On 4	Return Kit 5	Log Off 6	(Clear) +
Start Run 1	Log Qty 2	End Run 3	✓
Finish 0	.	(Next) Enter	

Press the 0 key to confirm the book-in. The controller will return to the front page ready for the next worker ID scan. Press the **Back** key to return to previous pages to review or edit them.

Once you confirm the book-in stock will be created and it will appear in the output list for the works order.

6 What reports can I get?

There are many ways to get status information, just a few are described here.

6.1 Where is a worker?

You can find out where any worker is currently working by going to the detail of their user record and selecting the **SFDC** tab. You will see information similar to this:

User

Full Name: Anonymous

User ID: Anonymous

1 Detail | 2 Qualifiers | 3 Actions | 4 Costs | 5 Privileges | **6 SFDC**

Print SFDC Badge Print a user identification bar-code badge for SFDC.

SFDC Controller Start the SFDC controller (useful to log-off a worker manually)

Where is this worker now?

Active on: Log On (run)

WOrder: 0000000006 —((1877))

Step: 1877 [Turn Complete]

Since: 5/06/08 at 10:14:00

Works Order

? [User Icon] [Lock Icon] <Back Next> New Reset Del Save Close

6.2 What is the progress on a works order?

You can see the progress on a works order by going to its details and selecting the **Progress** button. You will see information similar to this:

In Progress Works Order Progress

Works Order: 0000000006 Cost So Far: £9.32

Our Part Num: 1877 —((Short Ring))

Quantity: 1,000 Each

☒ Show progress reports
☐ View as top-down product structure

Outputs (use to see step failures)

Colours: Green=complete, Red=late, Yellow=started Logged on: Anonymous

Step + Resource + Progress	Resource		To-Do Time	Progress	
	o	Req'd Qty		Method Time	an
1877 [Turn Complete]					
Citizen M1/2 [Citizen LN20 M2]					
5/06/08 11:58:29 Start Setup - M.					
Labour	x	1,000 Each	9 Hrs	9 Hrs	
5/06/08 11:58:29 Log On (setup)					
General Worker		1,000 Each	16.389 Hrs	16.4 Hrs	
<No Progress>					
1877 [Ultrasonic Clean]					
Ultrasonic Tank		1,000 Each	50 Mins	50 Mins	
<No Progress>					
1877 [Visual Inspect]					
Visual Inspector		1,000 Each	2.778 Hrs	2.783 Hrs	
<No Progress>					
1877 [Clean & Pack]					
Ultrasonic Tank		1,000 Each	2.167 Hrs	2.167 Hrs	
<No Progress>					

0 = X if outstanding resource override has not yet been integrated
☒ Auto schedule needed to update todo times etc (not done in real time).

You can also edit the logs from here to correct mistakes, or even delete them completely. To edit a log, select it in the list and press **Detail**. To remove it, press **Remove**.

6.3 What time has been logged this month?

You can get a full report on all time loggings over any time period by using the **Works Order Hours** report available in the **Reports** menu. That report provides a number of options to view the information in various ways.