Perpetual Inventory Link with QuickBooks Online

Introduction (Seminar 13)

The operation of the Perpetual Inventory system for materials is summarized in the following table.

QuickBooks →	**Profit & Loss**		**Balance Sheet**					
Action in ManuDyn ↓	Material Variance (D)	COG or Expense (D)	Goods Received Control (D)	Inventory Account (D)	Work In Progress (D)	Finished Goods (D)	Tax Account (C)	Accounts Payable (C)
Goods Received	Credit Std Cost		Debit Std Cost					
Invoice received & Reconciled	Debit Net Cost		Credit Std. Cost	Debit Std. Cost			Credit Tax	Credit Actual Cost
Job Issue to factory				Credit Std. Cost	Debit Std. Cost			
Complete Job					Credit Std. Cost	Debit Std. Cost		
Invoice Job		Debit Std. Cost				Credit Std. Cost		

The process starts at the Receipt of Goods against a purchase order. In the accounts system the value of the goods (at either Standard Cost or Weighted Average Purchase Price) is placed in the Material Variance (Cost of Goods Sold account) and balanced against the Goods Received control account.

When the Supplier Invoice is received the value of the goods is passed from Goods Received to the Inventory account and the actual cost is processed to Accounts Payable (and Tax as appropriate) and balance with the Material Variance Account. The net amount in the Material Variance account at this point is the difference between the estimated and actual cost (it is a variance against the standard).
When the Job is Issued to production the material value moved from Inventory into Work-in-process and when the Job is finished it moves to the Finished Goods account. Invoicing the Job will move the material value from Finished Goods to the Cost of Goods Sold account.

The actual value of material is therefore the sum of the Material Variance and the Cost of Goods Sold accounts and this result in the same irrespective of whether you choose to use Standard Cost or Weighted Average Purchase Prices as the basic for the material valuation.

The processing for the Labour component the Perpetual Inventory system is as follows:

QuickBooks>	Profit & Loss		Balance Sheet			
Action in ManuDyn	Job Cost Labour Variance (D)	COG Labour (D)	Job Cost Labour Liability (D)	Work In Progress (D)	Finished Goods (D)	Bank (D)
Weekly Payroll	Debit Actual Cost					Credit Actual Cost
Job Status Update			Credit WCRR Cost	Debit WCRR Cost		
Complete Job				Credit WCRR Cost	Debit WCRR Cost	
Invoice Job	Credit WCRR Cost	Debit WCRR Cost	Debit WCRR Cost		Credit WCRR Cost	

Usually the weekly payroll is balanced against the Labour expense account. In this system the expense account becomes the Labour Variance account, that is the difference between the actual cost (the payroll) and the Job Cost. Time is recorded against jobs and valued at either the Employee Recovery Rate or the Work Centre Recovery Rate. It makes no difference which you choose as the actual cost is always the sum of the Labour Variance and the Cost of Goods for Labour (see above).

The Work in Progress account increases as the Job is progressed and when finished moves into the Finished Goods account in the same way it does for materials. At Invoicing the Labour component of Work in Progress moves from finished goods into the Cost of Goods Sold account for Labour.

In this Seminar we examine the entire operation of the Link involving Sales Orders, Purchasing, Inventory and Stock control together with Scheduling and Job Costing all functional activities in ManuDyn. In QuickBooks we will look at the effects on the Control and Asset accounts in the Balance Sheet, and the Variance, Expense and Cost of Goods Sold accounts in the Profit and Loss report.

Processing Sales Orders (A Complete ERP Operational Overview)

To illustrate the operation of the entire ERP process we need to first create a *Material Item* (a raw material called RM), with the vendor being the Supplier we created earlier (SUPPLIER). We will then create a *Manufactured Item* (called PART) and add the raw material as an item in its Bill-Of-Material. You should also add at least one process to the Routing.

We will begin by raising a Sales Order. Select the *Sales Orders/Order Management* menu item then select the New Icon to assign the Job Number and the Customer Lookup to recall the customer we created earlier (CUSTOMER). Then from the Grid dialog use the Lookup to recall the PART Item Code and set the required quantity. In my example I have entered a quantity of 100 as shown below:

Once the Sales Order has been saved select the *Inventory Control/Order Processing* menu item which recalls the order processing dialog as shown below:

The lower grid display in this dialog shows the outstanding material requirements (that are not covered by what's in stock or on order), and which need to be purchased in order to satisfy our Sales Orders. In my example a purchase order now needs to be created for or RM material item. This can be done independently (that is manually) through *Purchase Order/Purchase Orders* menu item however, it is more efficient to do it here by simply selecting the Order box adjacent to the material requirement (see below).
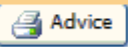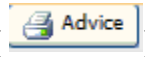
This will raise a purchase order for 100 units of RM-1 from the SUPPLIER and a popup dialog to this effect will be displayed similar to that shown below:

The purchase order advice can be printed from here by selecting the Advice button (Advice) or it can also be done from *Purchase Orders/Print Purchase.*

Note i. You can email the advice directly by selecting the mail icon on the tool bar.

The next stage is the receipt of goods from the supplier. Select the *Purchase Orders/Receive Purchases* menu item then use the Lookup to recall the Purchase Order. To receive the goods simply select the box adjacent to the Item Code as shown below or you can select the Grid and enter the Goods Receipt dialog to manually enter the receipted quantity (if it's different to the purchase

order quantity). To make it easy to reconcile (next step) you should indicate a delivery reference such as the Delivery Docket Number from the Supplier as has been done in my example.

This transaction is the first that is passed to QuickBooks. The Goods Received traction action in ManuDyn places the material into Stock. In QuickBooks this is recorded in the Goods Received Control account. The value of the goods received is either at Weighted Average Purchase Price (WAPP) price or the Standard Cost (depending on which option is selected in the system setup, and we have to use these "unit prices" because we don't have the Suppliers Invoice (which contains the actual price), at this stage.

We can view this transaction in QuickBooks by looking at the Balance Sheet reports as shown below:

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BALANCE SHEET
As of February 2, 2017

	TOTAL
▾ ASSETS	
▾ Current Assets	
▾ Accounts receivable	
Accounts receivable	15,510.00
Total Accounts receivable	A$15,510.00
Finished Goods	0.00
Goods Received	1,000.00
Inventory	0.00
WIP	0.00
Total Current Assets	A$16,510.00
Total Assets	A$16,510.00

The next stage of the process is usually the receipt of the Supplier Invoice. To do a Supplier Invoice Reconciliation select the *Accounts Payable/Reconcile Transactions* menu item. The Grid display will show the list of un-reconciled transactions so that it can be selected.

Selecting an item in this Grid will recall the Invoice Number dialog so that the invoice number can be entered, the tax confirmed as shown below:

If this information needs to be altered (by adding freight or changing value) then select the item in this grid to recall the Supplier Invoice Details dialog (see below).

This dialog allows the amounts to be altered or freight and other changes added and also provide an opportunity to change the default general ledger assignments.

The general ledger assignments are set automatically by default as per our system setup. This will allow the Perpetual Inventory system to be followed for this purchase. Once the information is confirmed the Goods Receipted will be reconciled to the Supplier Invoice and the latter will be transferred to QuickBooks.

If you now check you QuickBooks system under our supplier there will be a new transaction as shown below:

There is no change to the P&L at this stage but the Balance Sheet shows our goods received having moved into the Inventory Asset account.

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BALANCE SHEET

As of February 2, 2017

	TOTAL
▾ ASSETS	
▾ Current Assets	
▾ Accounts receivable	
Accounts receivable	15,510.00
Total Accounts receivable	**A$15,510.00**
Finished Goods	0.00
Goods Received	0.00
Inventory	1,000.00
WIP	0.00
Total Current Assets	**A$16,510.00**
Total Assets	**A$16,510.00**

The Balance Sheet is also adjusted to increase Trade Creditors in line with the invoice amount and the Tax Liability account adjusted for the Input Tax credit.

Now that the raw material goods have been procured we can issue our job to production and start working on it. This is done from the *Scheduling/Job Issue* menu item. The screen display is similar to that shown below once the Job Number has been recalled.

As you can see there is stock available so I can "tick" the box adjacent to the Item Code and then select the Issue button to issue the job to production. Select the Issue button then lets see what has happened in both ManuDyn and QuickBooks. In *ManuDyn* the stock has been relieved by the job

issue and Job Cost information recorded. If you go to *Scheduling/Job Cost Report* and select the print button you can see that material has been accrued against the job.

And in QuickBooks the material cost from Inventory to Work-In-Progress as shown below:

Once the Job has been issued to production the labor time can be recorded against it and the value recorded into Work in Progress in QuickBooks. This is done through *Scheduling/Job Progress* menu item and recall the Job. Select the last operation in the Grid to recall and complete the job and recall the detailed dialog shown below:

Enter the full quantity done to complete the job and time (and Employee) and then save the job progress recorded.

If we examine the Job Cost report in *ManuDyn* it shows labour as well as material costs.

And in QuickBooks the labour cost was added to Work-In-Progress and because the Job Progress was recorded against the last operation the it has been transferred into Finished Goods.

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BALANCE SHEET
As of February 2, 2017

		TOTAL
▾ ASSETS		
▾ Current Assets		
▾ Accounts receivable		
Accounts receivable		15,510.00
Total Accounts receivable		A$15,510.00
Finished Goods		0.00
Goods Received		0.00
Inventory		0.00
WIP		1,050.00
Total Current Assets		A$16,560.00
Total Assets		A$16,560.00

To complete the Job the last operation must be processed at which time the Work in Progress will be transferred to Stock in *ManuDyn* and the Finished Goods account in QuickBools. If you go to Stores Tab from *Database Entry/Manufactured Items* for PART the finished quantity has been entered into stock (see below), so we can invoice the goods to our customer.

The Balance Sheet report in QuickBooks is shown below;

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BALANCE SHEET
As of February 2, 2017

	TOTAL
▾ ASSETS	
▾ Current Assets	
▾ Accounts receivable	
Accounts receivable	15,510.00
Total Accounts receivable	**A$15,510.00**
Finished Goods	1,100.00
Goods Received	0.00
Inventory	0.00
WIP	0.00
Total Current Assets	**A$16,610.00**
Total Assets	**A$16,610.00**

Invoicing can be done via *Sales Orders/Order Dispatch* or *Accounts Receivable/Invoices* menu items. In either case the procedure is the same. The invoicing dialog is displayed once Sales Order to be dispatched has been indicated as shown below.

Then select the Grid or "tick" the box adjacent to the Item Code) to recall the details dialog

Invoice Number: 0000006	Despatch Advice Invoice

Item #: 1

Sales Order: 0000012   Sales Order Item #: 1

Item Code: PART

Description: A Manufactured Part

From Store: Main (100)   Batch #:

Quantity: 100   units

Unit Price: 20.000000   (£ per units)

Other Charges: 0.0000

Freight: 0.0000

Discount Rate: 0.00 %   Discount: 0

Taxable Item: ✔   Tax Rate 20 %   Tax Amount: 400

Weight: 0   Gross weight: 0   Class:

Item Comment:

Serial Numbers: Add Serial

Delete   Move Record Before: 1   Move   OK   Cancel

Confirm the details (including tax) and select the OK button to save the invoice

If we now go to QuickBooks you will see that the invoice has been transferred as shown below;

Customer Pty Ltd   Edit   New transaction ▾

Customer Pty Ltd | 1 the Street, Suburb, State

Add notes

£2,880.00
OPEN

£0.00
OVERDUE

Transaction List   Customer Details

Batch actions ▾   Filter ▾

	DATE ▾	TYPE	NO.	DUE DATE	BALANCE	TOTAL BEFORE V	VAT	TOTAL	STATUS	ACTION
☐	15/09/2016	Invoice	0000...	15/09/2016	£480.00	£400.00	£80.00	£480.00	Open	Receive payment ▾
☐	15/09/2016	Invoice	0000...	15/09/2016	£2,400.00	£2,000.00	£400.00	£2,400.00	Open	Receive payment ▾

And checking the Profit and Loss and Balance Sheet report will demonstrate the changes as a result of the Customer Invoice.

Manufacturing Software UK Limited
PROFIT AND LOSS
1 January - 15 September, 2016

	TOTAL
Income	
Sales	2,400.00
Total Income	**£2,400.00**
Cost of Sales	
Cost of Sales - Direct Expenses	200.00
Cost of Sales - Labour	833.33
Cost of Sales - Materials	£1,000.00
Total Cost of Sales	**£2,063.33**
Gross Profit	**£ 3 16.66**
Expenses	
Total Expenses	
Net Operating Income	**£ 3 16.66**
Net Income	**£ 3 16.66**
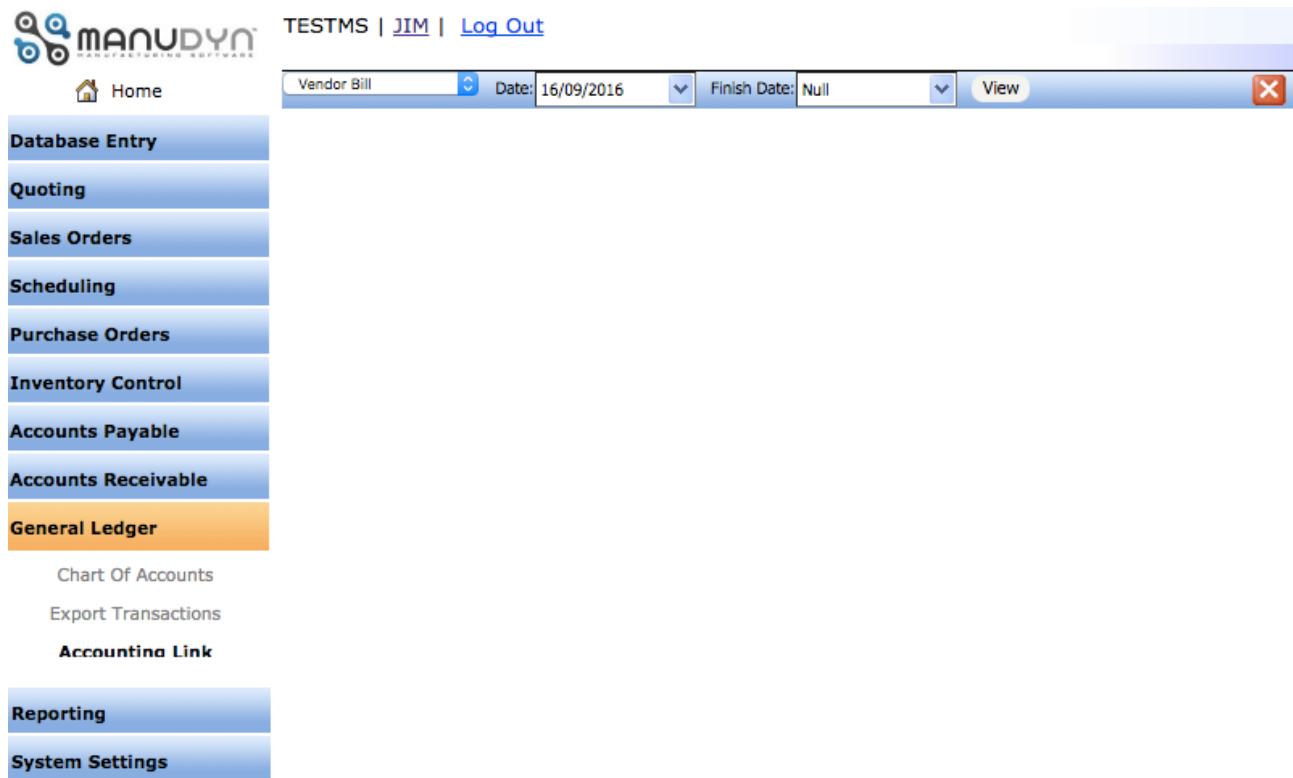
Manufacturing Software UK Limited
BALANCE SHEET
As of September 15, 2016

	TOTAL
Fixed Asset	
Total Fixed Asset	
Current Assets	
Finished Goods Stock	0.00
Inventory Stock	0.00
Work In Progress	0.00
Total Current Assets	£ 0.00
Debtors	
Debtors	2,880.00
Total Debtors	**£2,880.00**
Net current assets	**£2,880.00**
Creditors: amounts falling due within one year	
Trade Creditors	
Creditors	1,440.00
Total Trade Creditors	**£1,440.00**
Current Liabilities	
VAT Control	240.00
Total Current Liabilities	**£240.00**
Total Creditors: amounts falling due within one year	**£1,680.00**
Net current assets (liabilities)	**£2,200.00**
Total assets less current liabilities	**£2,200.00**
Total net assets (liabilities)	**£2,200.00**
Capital and Reserves	
Retained Earnings	
Profit for the year	2,200.00
Total Capital and Reserves	**£2,200.00**

Correcting Link Errors

We have added a ***Audit and Repair*** facility in ManuDyn which allows discrepancies between the two system concerning Vendor Bills, Customer Invoices, and Cost of Goods Sold and the Inventory accounts, to be identified and corrected. This facility is accessed via the General Ledger/Accounting Link menu. The initial screen display is shown below:

First the transaction type needs to be selected and then the date rage set. The select the View button.

Note i. Do not set a date range that is too large as may generate a report with an excessively large number of transactions. This will cause the system to appear to "lock up". It will eventually become "un-locked" as the processing completes but probably not before your patience is exhausted.

A screen display similar to that shown below will appear:

In my example I have 3 discrepancies between the data in ManuDyn and that in QuickBooks. In the first case the transaction is in both system but the amount in QuickBooks is zero. The second 2 transaction are in ManuDyn but not in QuickBooks. To correct this select the "SEND" option for each of the transactions.

A confirmation dialog (see below) will appear indication that the transaction has been "resent" to QuickBooks over-writing the data (if any) that was there.
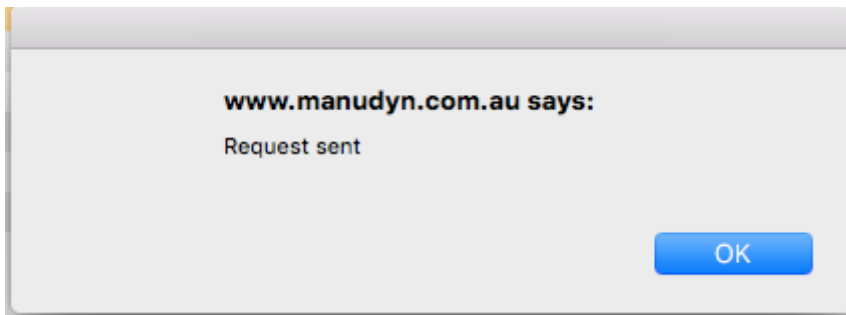
The corrected transaction will not appear immediately. You have to close the printout and select the View button again to reconstruct (recalculate) the report.

The Invoice and Inventory Adjustments work the same as the Vendor Bills in that the transaction is corrected by "resending" the data to QuickBooks. The Cost of Goods Sold is a little more complex.

Print Preview

								QuickBooks		
ManuDyn										
Customer	**Invoice**	**Date**	**Invoice Amount**	**Sales Order**	**Job Cost**	**Finished Goods**	**COGS**	**Job Cost**	**Finished Goods**	**COGS**
Customer Pty Ltd	0000001	2016-09-07	400					0	0	0
Customer Pty Ltd	0000001	2016-09-07	400							
Customer Pty Ltd	0000002	2016-09-09	2000					0	0	0
Customer Pty Ltd	0000002	2016-09-09	2000							
Customer Pty Ltd	0000003	2016-09-10	2000	0000002-1	1000	1000.00	1000.00	1000	1000	1000
Customer Pty Ltd	0000004	2016-09-14	1500	0000003-1	2250	2250.00	2250.00	2250	2250	2250
Customer Pty Ltd	0000005	2016-09-15	400					0	0	0
Customer Pty Ltd	0000006	2016-09-15	2000	0000012-1	1000	1000.00	1000.00	1000	1000.00	1000
New Customer Pty Ltd	0000007	2016-09-16	1000					0	0	0
New Customer Pty Ltd	0000008	2016-09-16	2000	0000013-1	1000	1000.00	0.00	1000	1000	0
New Customer Pty Ltd	0000009	2016-09-16	2000	0000014-1	1000	2666.66	0.00	1000	2666.66	0
Report Total					**6250**	**7916.66**	**4250.00**	**6250**	**7916.66**	**4250**

The items in "red" represent discrepancies and those that are underlined needs to be corrected by selecting the underlined link. For the first item (invoice 8) the Cost of Goods Sold does not match the invoice. Selecting this item will adjust this in both ManuDyn and QuickBooks as shown below:

Print Preview

								QuickBooks		
ManuDyn										
Customer	**Invoice**	**Date**	**Invoice Amount**	**Sales Order**	**Job Cost**	**Finished Goods**	**COGS**	**Job Cost**	**Finished Goods**	**COGS**
Customer Pty Ltd	0000001	2016-09-07	400					0	0	0
Customer Pty Ltd	0000001	2016-09-07	400							
Customer Pty Ltd	0000002	2016-09-09	2000					0	0	0
Customer Pty Ltd	0000002	2016-09-09	2000							
Customer Pty Ltd	0000003	2016-09-10	2000	0000002-1	1000	1000.00	1000.00	1000	1000	1000
Customer Pty Ltd	0000004	2016-09-14	1500	0000003-1	2250	2250.00	2250.00	2250	2250	2250
Customer Pty Ltd	0000005	2016-09-15	400					0	0	0
Customer Pty Ltd	0000006	2016-09-15	2000	0000012-1	1000	1000.00	1000.00	1000	1000.00	1000
New Customer Pty Ltd	0000007	2016-09-16	1000					0	0	0
New Customer Pty Ltd	0000008	2016-09-16	2000	0000013-1	1000	1000.00	1000.00	1000	1000	1000
New Customer Pty Ltd	0000009	2016-09-16	2000	0000014-1	1000	2666.66	0.00	1000	2666.66	0
Report Total					**6250**	**7916.66**	**5250.00**	**6250**	**7916.66**	**5250**

Note i. You will need to exit out of the report and select the View button to regenerate it in order to view the changes.

Each highlighted item needs to be selected in order for the system to recalculate and make the necessary corrections.

Generally these discrepancies should be rare as they represent some serious loss of contact between the systems during data transfer. If your internet reception is poor you may see a greater incidence of this behavior.
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Concluding Remarks

The 12-point summary below covers the entire setup and operation of the **QuickBooks® Online** accounting link with **ManuDyn**;

a) **Complete *QuickBooks* setup**;

a) Add Inventory, Work-In-Progress and Finished Goods accounts (and others as appropriate to the Chart of Accounts).

b) Disable Track Quantity on Hand (*Setup Cog, Company Settings/Sales/Product & Services*) so Perpetual Inventory can be progressed from ManuDyn.

c) Ensure the "Track Stock Quantity on Hand" option is disabled if you intend to run Perpetual Inventory.

Then in *ManuDyn* do the following:

b) Set **Default Tax Groups** for Sales & Purchases and set the **Tax Type** *(System Setting/General Options-Option tab)*

c) Set **Income, Expenses & Balance Sheet defaults** *(System Setting/General Options-Accounts tab).* Activate the "Add Labour Cost to Manufactured Items" is operating Perpetual Inventory. If you leave an account category "blank" it will be disabled.

d) **Created Company** in *ManuDyn* and set **Tax Groups** against Invoice & Delivery Addresses *(Database Entry/Company-Address tab).* Note the Company Name in *ManuDyn* is code in *QuickBooks*

e) **Create Material Items** in *ManuDyn* and set **specific general ledger assignments** only for **Expense Purchase items** *(Database Entry/Material Items-Supplier tab).* Note - **do not set** specific GL assignments for raw material purchases as they are a "Cost of Goods Sold" item and not an Expense item. The raw material purchases are assigned initially to the Inventory account when reconciled (see point 9 below).

f) **Create Manufactured Items** in *ManuDyn* and set **specific general ledger assignments** for **Sales (Invoice) items only** *(Database Entry/Material Items-Sales tab).*

g) **Sales Order** entry in *ManuDyn* creates the material requirements.

h) Raise **Purchase Order** for requirements and **receive goods** in Manudyn *(Purchase Orders/Receipt Purchases).* Note – the transaction should include a Delivery Docket Reference.

i) **Reconcile Supplier Invoice** in *ManuDyn* *(Accounts Payable/Reconcile Transactions).* In QuickBooks when the Goods Received are:

a) For **Expense items** the Expense account is increased and the Tax Liability account decreased, balanced by Accounts Payable (Trade Creditors).

b) **Raw Material purchases** the Inventory Stock account is increased and the Tax Liability account decreased, balanced by Accounts Payable (Trade Creditors).

j) **Issue Job to production** (Scheduling/Job Issue). The Inventory Stock account is decreased balanced by an increase in the Work-In-Progress account.

k) **Complete Job** by indication last operation is done *(Scheduling/Job Progress* or *Scheduling/Factory Screen).* Work-In-Progress account is decreased balanced by an increase in the Finished Goods account.

l) **Invoice Sales Order** *(Sales Orders/Order Despatch* or *Accounts Receivable/Invoice).* Two things happen in *QuickBooks*, namely:

a) Income Sales account and Tax Liability account increased in balanced by Accounts Receivable (Trade Debtors).

b) Finished Goods account decreased balanced by an increase in Cost of Goods Sold account.

That concludes this seminar illustrating the setup and operation of the *ManuDyn* link with QuickBooks on line.

ManuDyn also links with the QuickBooks desktop addition. The setup and operational instructions for that system and other videos relating to the online link are contained in a series of Video Tutorials Series, the links to which are shown below:

Perpetual Inventory QuickBooks Online (Part 1): https://www.youtube.com/watch?v=euJhrcO8LXc
Perpetual Inventory (Online Part 2): https://www.youtube.com/watch?v=XWW6ZElLSGE
Weekly Time Employee Sheets in QuickBooks Online:
    https://www.youtube.com/watch?v=KhpIZWpSEZs
Weekly Time Employee Sheets in QuickBooks Desktop:
    https://www.youtube.com/watch?v=fgXJl4A64u4
Connecting ManuDyn to Pro, Premier and Enterprise Systems:
    https://www.youtube.com/watch?v=oHStL-8EVcU
Perpetual Inventory QuickBooks Pro, Premier and Enterprise Systems:
    https://www.youtube.com/watch?v=TTbfW6WQT1U

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