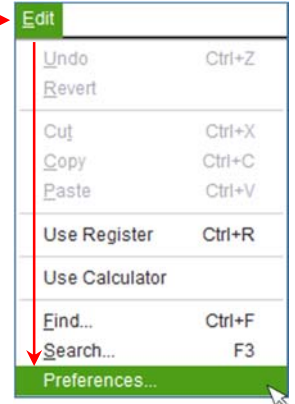This guide explains the **build process and cost fields** for QuickBooks Inventory Part items and Inventory Assembly items.
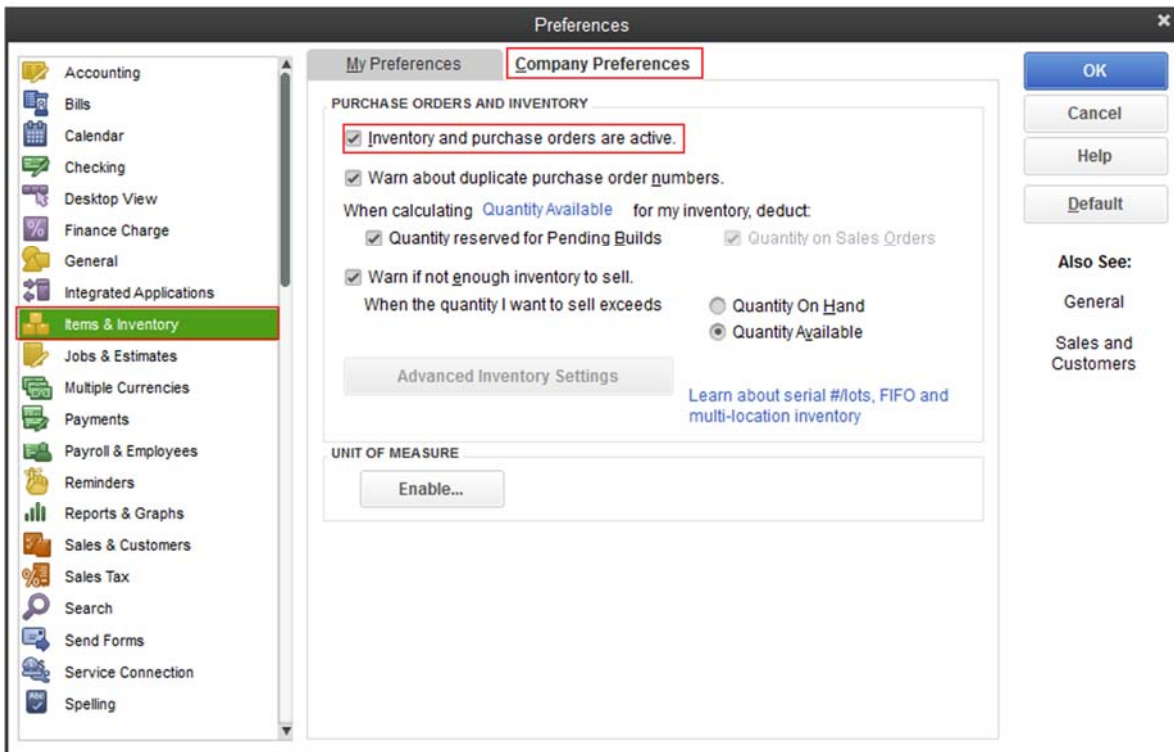
Create the Inventory Part

First, enable inventory management in QuickBooks. This is not set up by default, and it can be confusing to new users as the *item list* is displayed, even if not enabled.

From the **QB ToolBar** select **Edit** > **Preferences**.

Select **Items & Inventory** from the **Preferences** pick-list, click **Company Preferences** tab.
Check the *Inventory and purchase orders are active* check box. We recommend using the default selections for the other fields in this preference.

With the inventory preference established, add inventory parts to the item list. We recommend using Windows short-cut control keys in QB. To add a new item to the item list, just click **CTRL+N** in the item list. There are several different kinds of items that can be added, this guide will use *inventory part* items.

simple
business systems
accounting, made **simple**

Add an *inventory part* for each item that requires inventory tracking or is used as a component in an assembly. Create and use *non-inventory parts* for items that don't require tracking by count. If you have a physical count of inventory, then enter that count.

TYPE

Inventory Part ▾   Use for goods you purchase, track as inventory, and resell.

OK
Cancel
Notes
Custom Fields
Spelling

Provide a SKU, MFG Part Num or Item ID as the QB Item Name

Enter MGF Part Number if known (optional)

Item Name/Number   ☑ Subitem of   Manufacturer's Part Number
SC-12   Screws ▾

UNIT OF MEASURE

Enable...

If a sub-item indicate with the check box and the top level item name

PURCHASE INFORMATION

Description on Purchase Transactions

Screw, #12 Flex WHW #3 Tek

SALES INFORMATION

Description on Sales Transactions

Screw, #12 Flex WHW #3 Tek

☐ Item is inactive

Enter Sales Price, Tax Code and Income Account

Add purchase and sales descriptions

Cost	11.00
COGS Account	Cost of Goods Sold ▾
Preferred Vendor	Screws R Us ▾

Sales Price	25.75
Tax Code	Tax ▾
Income Account	Gross Sales ▾

Enter Cost, COGS Account and Preferred Vendor if (if known)

INVENTORY INFORMATION

Asset Account	Reorder Point	On Hand	Average Cost	On P.O.
Inventory Asset ▾	100	0	11.00	0

Assign an Inventory Asset account and set Reorder Point (optional)

Create the Inventory Assemblies

After the *inventory part* items have been added to the item list, then add an *inventory assembly* item (as required) for each manufactured item. Inventory assembly items require using either the QB Premier or Enterprise edition. The primary difference from an *inventory part* is the ability to assign a component list, a *bill of materials* (or "BOM") which is a list of all components contained in an assembly item.
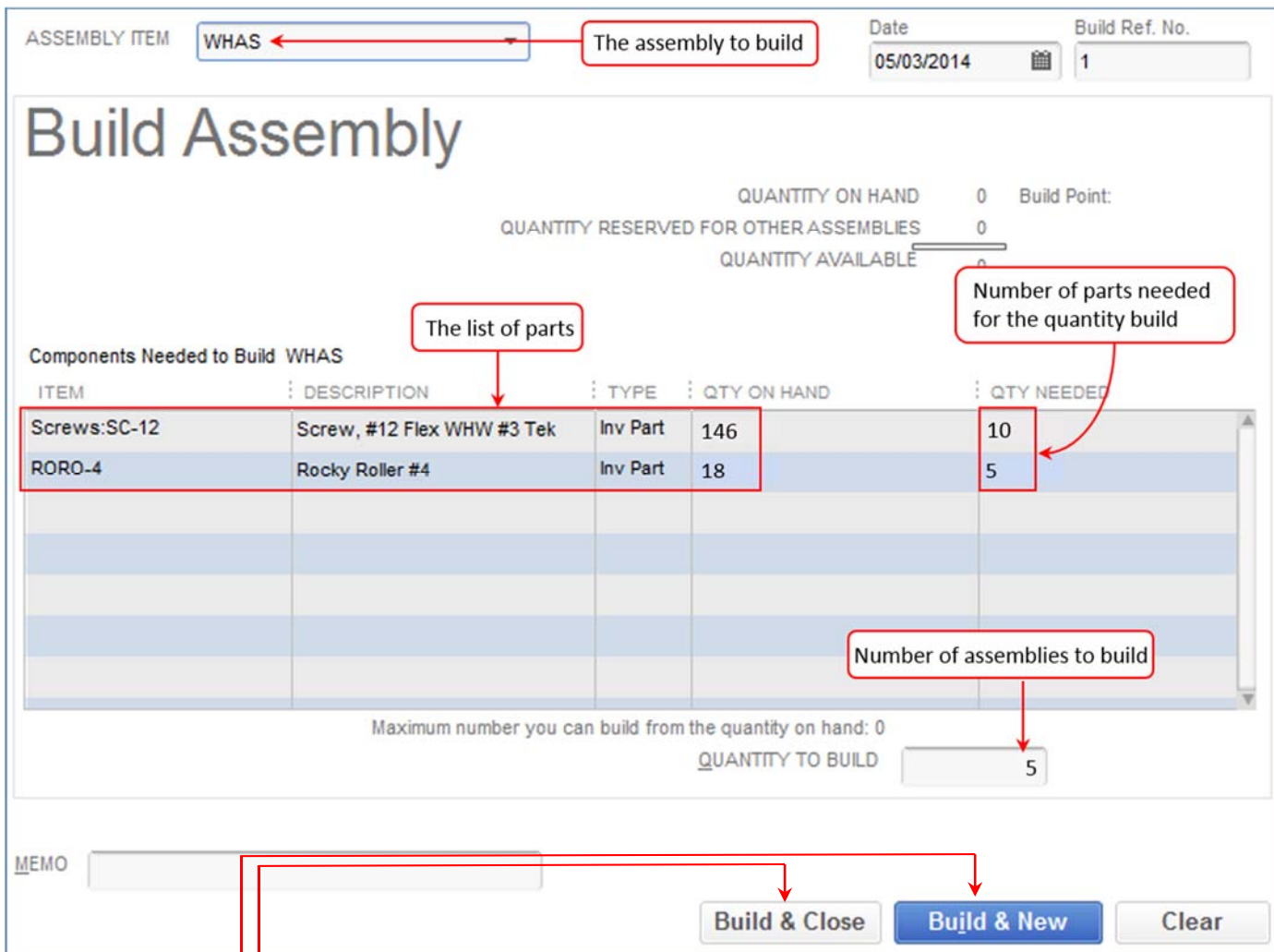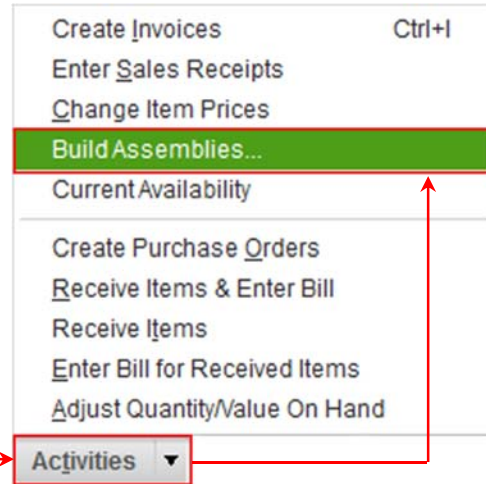

In this example, building one "WHAS" wheel assembly requires two SC-12 screws and one RORO-4 roller.

Build the Assemblies

Now that the parts and assemblies have been defined, build the assembly. From the *Activities* button at the bottom of the item list, click **Build Assemblies**. In the *Build Assemblies* dialog window select the assembly to build and enter the number of this assembly to build.

Create Invoices	Ctrl+I
Enter Sales Receipts	
Change Item Prices	
Build Assemblies...	
Current Availability	
Create Purchase Orders	
Receive Items & Enter Bill	
Receive Items	
Enter Bill for Received Items	
Adjust Quantity/Value On Hand	

Activities ▼

ASSEMBLY ITEM   WHAS ← The assembly to build

Date 05/03/2014   Build Ref. No. 1

Build Assembly

QUANTITY ON HAND   0   Build Point:
QUANTITY RESERVED FOR OTHER ASSEMBLIES   0
QUANTITY AVAILABLE   0

The list of parts

Number of parts needed for the quantity build

Components Needed to Build WHAS

ITEM	DESCRIPTION	TYPE	QTY ON HAND	QTY NEEDED
Screws:SC-12	Screw, #12 Flex WHW #3 Tek	Inv Part	146	10
RORO-4	Rocky Roller #4	Inv Part	18	5

Number of assemblies to build

Maximum number you can build from the quantity on hand: 0

QUANTITY TO BUILD   5

MEMO

Build & Close   Build & New   Clear

When either of the *build* buttons is clicked, QB will save this build. Two things happen:

QuickBooks moves the cost of the inventory part assets into the inventory assembly asset by removing the *quantity needed* amount of each component item (*consuming* the items in a build) and increasing the quantity of the inventory assembly item

by the *quantity to build*. In the example above, 50 SC-12 and 25 RORO-4 inventory part assets are deducted from inventory and 5 WHAS assembly items are added to inventory when the five new WHAS assembly items are built.

- **NOTE**: the *maximum number you can build…* value. QuickBooks won't allow building an assembly if there aren't enough parts on hand to build it. This value shows how many can be built with the available parts.
- If entering a *quantity to build* that's higher than the *maximum number*, QuickBooks will mark the "build" as **Pending**. This means that it hasn't been built, it is waiting to be built. There are reports that list the *pending* builds.
- When entering the *quantity to build,* much of the information in this dialog will not be updated until moving the cursor to another field, such as date or memo. This can be confusing at first. When moving the cursor off that field the *qty needed* is updated, the *pending* stamp could be displayed.

The *Date* field is very important. This is the date the *build* transaction takes place. The *quantity on hand* for the component parts is based on the inventory status as of this date. Sometimes people get frustrated – they look at an inventory report and it says you have enough, but this dialog says you don't! The issue is usually the dates – if the report is dated after a PO is received, but your build is dated earlier, you might not have had those parts on this date. Adjust the date in either your report, or the build.

As expected, the same issue relates to the built assemblies– they are only available on or after the build date, not before.

This has been a quick overview of how to work with an assembly item and to issue a *build*.

To learn more about using QuickBooks in your manufacturing company, click on the **Manufacturing** tab in the menu bar.

Now let's review Inventory and Assembly Cost Fields

An **Inventory Part** item has two **cost** fields…

The **cost** field, is a "reference" field. It has no direct bearing on inventory *valuation* (the cost of inventory in the inventory asset account). This can be confusing (what, QuickBooks confusing?) this can be referred to as the "last purchased cost" (although that isn't always right). When purchasing an item and receiving a bill for it, the cost of that received item will usually be displayed here (but not always, depends on how the company file is set up). This value can be modified directly in this edit item user interface, it has no direct effect on inventory valuation.

The **Average Cost** field is used in calculating inventory value, which is calculated by QuickBooks based on the cost of receipt (and adjustment) transactions. This value field cannot be directly edited, it is a calculation that QuickBooks inserts.

Inventory Valuation

QuickBooks values inventory using a **weighted average cost** calculation, instead of other more familiar types (LIFO, FIFO, or specific costing). Other costing methods require a third party add-on program to manage inventory, external to QuickBooks.

This is a complicated subject, let's look at an example.

- If starting with an item at no quantity, no value, and receiving a quantity of 10 at $1.00 each, the **cost** is $1.00 and the **average cost** is also $1.00, and $10.00 of inventory in the inventory asset account.

- If receiving another 10 items, but at a unit cost of $2.00, the **cost** value set to $2.00. However, the **average cost** of the inventory will show as $1.50. We started with 10 items and a value of $10.00, we added another 10 items at a value of $20.00, so we have 20 items with a value of $30.00. That provides an average cost of $1.50.

If one of these items is sold, the COGS account is incremented by the average cost of the item at the time of the sale.

This is a simple example. There are long arguments about the costing calculation that QuickBooks uses – relating to more complicated situations where there are many added transactions, and other situations.

If all inventory is sold, and items continue to sell, the item goes to a negative quantity, then the costing calculation runs into problems. It can't accurately account for a negative balance, and some very odd figures display in the average cost field and the inventory valuation reports. Once the balances are brought back to positive, these figures will self-resolve. Good business practices dictate not allowing negative inventory balances. The **Inventory Valuation Detail** report shows exactly how QuickBooks derives the item's average cost.

Manufacturing Cost

An *Inventory Assembly* item has an additional cost field – the **Total Bill of Materials Cost**.

This *inventory assembly* example item (WXC-123) has two components, a Solid-core (two) and a 4-Twisted Pairs (one). **NOTE**: there are **three costs** shown in this window.

The **Cost** field (15.00) has no real bearing on item valuation. This value can be directly edited in this field. The *cost* value of purchased parts is usually, but not always, the "last purchased cost" of an item.

QuickBooks does **not automatically update this cost** to reflect either the *Total Bill of Materials Cost* or the *Average Cost*.

The **Avg Cost** field (32.00) is the cost that QuickBooks uses to calculate the value of this item. It can only be directly edited adding a new item – after that it is updated by inventory adjustments, receipts and builds.

Multiply the *on hand* value by *average cost* to get the inventory value for this assembly (assuming you don't have a negative *on hand* quantity).

The **Total Bill of Materials Cost** field (32.00) is not directly tied to the *cost* or *average cost* values. This is the sum of the *cost* values of the components in the BOM. In our starting example it matches the *average cost*, but as seen in later examples they are not always connected.

What is the Cost of a Build?

Let's review the two component items. The SC-12 screw has a *cost* of 11.00, but the *average cost* is 8.86076.

The RORO-4 roller has a *cost* of 10.00 and an *average cost* of 19.44444.

When starting, we have six WHAS assemblies at an average cost of 32.00, for a total inventory valuation of 192.00. We will build four of WHAS to bring a total of 10. What will we see for the *cost*, *average cost* and *total bill of material cost* for WHAS when the transaction is done?

- Start with 6 @ 32.00, for a valuation of 192.00
- Each WHAS that is built, uses 2 screws @8.86076 (the *average cost*), for $17.72152
- Each WHAS that is built, used 1 roller @19.44444.
- The cost at this time for one WHAS is 37.16596
- We built four WHAS for a total valuation of 148.66384
- Adding four WHAS with a total cost of 148.66384 to the value of 6 WHAS that were valued at 192.00 provides a total inventory valuation of 10 WHAS for a value of 340.66384
- Dividing that total cost by the total on hand (10), provides *average cost* for WHAS of 34.06638

Now review the WHAS assembly cost information:

The *average cost* is as predicted (QuickBooks did some rounding in).

NOTE: the *cost* and *total bill of material cost* have **not changed**.

This demonstrates the *average cost* of an assembly item is **adjusted by the *average cost* of the component parts** when issuing a build transaction. This is expected behavior, and it demonstrates QuickBooks is properly maintaining the inventory value. The cost of the component parts is being rolled into the cost of the assembly.

Management Information is Misleading

The issue, from a management (not accounting) standpoint is… the **figures are misleading**. As costs fluctuate, the *cost* value does not change. It only changes if it is manually updated. If a report shows the cost of this assembly, you may have an incorrect understanding of the cost of the assembly.

Inventory Assembly Bill of Materials
ItemNameNumber WHAS

Manufacturers Part Number

Is Purchased	No			
Purchase Description	Wheel Assembly			
Sales Description	Wheel Assembly			

Sales Price	40.00	**Income Account**	Gross Sales	
Cost	15.00	**COGS Account**	Cost of Goods Sold	
Total Value	340.67	**Asset Account**	Inventory Asset	
Qty OnHand 10	**Avg. Cost** 34.07	**On Purch Order** 0	**On Sales Order** 0	
Pending Builds 0		**Build Point** 0		

Bill of Materials

ItemName/Num	Description	Type	Cost	Qty	Total
Screws:SC-12	Screw, #12 Drill Flex HWH #3 Tek	Inv Part	11.00	2	22.00
RORO-4	Rocky Roller #45	Inv Part	10.00	1	10.00
	Total Bill of Materials			**3**	**32.00**

What is worse, the *change item prices* function in QuickBooks allows using the *cost* of the assembly item, but **not the average cost**, so price updates will be based on information that is often incorrect and out of date.

To take this further, if the WHAS inventory assembly is used as a sub-assembly in a higher level assembly, the *total bill of material cost* value in that higher level assembly will reflect the *cost* of the subassembly, which doesn't reflect any useful value if you are not diligent.

Why Is This Important?

Most companies base the sales price on the item manufacturing cost. It is important to have accurate information to make these decisions. Updating prices based on the **current cost of acquisition** is common. That is, the BOM cost should reflect the *last purchase cost* of the components, not necessarily the *average cost*. Updating the *cost* field, when parts are purchased, places this information in the components database.

A simple one-level item structure requires a review of the *total bill of materials cost* as the basis for decisions. This value is hard to find in QuickBooks – it doesn't show in reports other than the individual Bill of Material printout, or in the Edit Item screen.

With a more complicated product structure, using sub-assemblies, getting an accurate cost of the assemblies is more complicated. The *cost* shown for the sub-assembly might not have any relation to the cost of the components.

What To Do?

Obviously, if using the QuickBooks price updating tools, prices should be based on accurate information. QuickBooks requires a periodic review of the *total bill of material cost* of each assembly, and then re-enter that in the *cost* field. Again, this value is only found in that one report or in the edit item screen for the assembly. There isn't a simple report that lists the value.

This is complicated with multiple level product structures – for those cases, update the **lowest level assembly first**, and work your way back up the product structure.

There is a QuickBooks add-on product called CCRQBOM available from ccrsoftware.com. The primary feature is a **cost rollup function** that will take the *cost* value of the component items and update the *cost* value of the inventory assembly item. In addition, with multiple level assemblies, the program will determine what the lowest level assembly is and start with that, rolling the cost up through all of the levels to the top