Train Inventory in Excel

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Introduction

I started tracking my train inventory by marking up a Greenberg's Price Guide to indicate the items I had in my collection. One reason for this was to avoid buying duplicate items at train shows –yes, it happened. Each year I would transpose the marks to the newly released price guide. I also used self-adhesive stars in the larger format photo guide books. Of course, this soon became untenable.

I tried a few train inventory programs in the 1990s. One even had price guide data. These programs did not meet my needs and it was not ease to do bulk loading or editing. These programs are no longer supported. I have not revisited this approach because current programs would likely have the same shortcomings and I have, in the meantime, developed my Excel approach.

I started tracking my Lionel train inventory in Microsoft Excel arrond 2000.   Over the years this evolved to include more fields and refined data. At the point I started this I had to transfer my existing inventory records and first started to set up the "rules" for entering the data. I then added a list of purchases and populated this from memory and from saved receipts.

I use additional tabs for various purposes like listing catalogs and paper, 6464 cars, etc. These tabs are standalone and not integrated with the inventory and purchase lists. Therefore this document only covers those two base lists. Additional tabs are used for reporting and statistics and these will be covered at some point.

This document describes the content of these worksheet tabs, how they are populated, and how the features of Excel can be used to search and sort the data.

I am going to start with the essential features and my add more detailed instructions over time. If you are pondering this approach I would be glad to answer questions by email, and this may trigger additions to the document.

Notes On Using Excel

I am assuming a basic understanding of Microsoft Excel or Open Office Spreadsheet. I actually don't use very many exotic features available in today's Excel. The most important feature is Auto Filter. This is simple to use and provides powerful search, sort, and filter capabilities. I also occasionaly use pivot tables for some reporting but these are also easy to use.

I am currently using Excel 2010 running on Windows 7. I have no intention of upgrading Microsoft Office or Windows 7, ever.   Most of the features I use have been supported in prior versions of Excel going back to the late 1990s. I have also tested the file with Open Office 4. Open Office is a viable

approach but with minor differences in certain features. I have kept the file in XLS format but it could easily be saved out to XLSX.

Any examples I use will refer to menus in Excel. I have Classic Menu for Office installed as I eschew use of the ribbon interface as much as possible. I also have Classic Shell for Windows installed to undo the damage Microsoft inflicted on the Windows UI starting with Vista.

Although I have used Microsoft Access and other relational database products professionaly I do not find these convenient or efficient to use for my purposes. When I started my inventory project the various programs in today's office suite were not bundled and Access was not worth the extra cost.

The main point is – I am the only user for this database and the only customer for the database. I can add to it and change it anytime I want and it has been portable across many versions of Windows and Excel. Further, I have used Excel extensively at work. In fact, Excel is the universal go-to adjunct for managing data imports and exports between larger business systems. One of the systems I deployed and managed was a PDM (Product Data Management) system. It had millions of part and bill of material records, and was used by hundreds of users at mulitple locations around the globe. I participated in engineering forums related to PDM. I can tell you that many, very many, small and medium sized organizations use Microsoft Excel for this function.

I produced this document for those interested in using Excel for tracking train inventory. It could be used for any collection for that mater. The data I use meet my current needs but others may wish to use different fields or conventions.

There is only one table relationship in this database – a one to many relation between a purchase and one or more inventory items. There is no validation, uniqueness or integrity rules. Since it is only me using the database I keep the rules in my head and I can change them anytime I want. If there is an error, I did it, and I just fix it.

The only feature on my wish list would be photos. This could be done with some effort but I have better things to do these days. Besides if I want to see a picture I type Lionel and the number into Google and I get a picture in a matter of seconds.

Creating and Using the Spreadsheet

The Excel filename is AA_RR.xls. This was the quick and dirty name I used to create the file. You can use any name you want. The two worksheet tabs are RR for the inventory and PURCH for purchases.

To get started open a new Excel file and save it to your chosen name. Then:

1. Rename a tab to RR for the inventory spreasheet.
2. Look at Table 1 and enter the column headings in the first row.
3. Format the columns as indicated.
4. Select ALL the colums and apply the autofilter using Data/Filter/Filter.
5. You will see dropdown arrows appear in the header row.

6. Rename another tab to PURCH for the purchases spreadsheet.
7. Look at Table 2 and enter the column headings in the first row.
8. Format the columns as indicated.
9. Select ALL the columns and apply the autofilter using Data/Filter/Filter.
10. You will see dropdown arrows appear in the header row.

11. Now add some data to row 2 of the RR tab as described in the table. The actual values are not important.   Then enter the formula for extended cost which is =D2*M2

12. You do not have to enter anything is the RR Count column of the PURCH tab as this time.

13. Save the file. You now have your Inventory database ready to go.

In the next update I will describe how to add data. And and show how to search, sort and filter using the autofilter function.

Additional topics will include importing and exporting data. Reporting and other topics.

I will add screenshots as well.

I am considering how to share my populated data or an example subset. Stay tuned.

Regards,
Cam

Table 1. Inventory Tab Column Names and Content

Column	Header	Format	Purpose	Content
A	PURCH#	Center Align.	Reference to Purchase Number from Purchase Tab	This column may be blank if the item has been entered but the PURCH # has yet to be assigned in the purchase list. - Contains one purchase record number from PURCH # column of PURCH tab. This may be an integer or a combination of purchase year and a two digit counter (e.g. 200501). - **0** for purchases from the mists of time – may include the vendor name if I know that but not the detail of the purchase. - **?** means unknown or not sure. - **ref** for items included in the list for reference purposes only.
B	STAT	Center Align.	Status of the item	This column is never blank. - **X** if I have the item - **X Repair** is the item needs repair - **ref** for items included in the list for reference purposes only.to include in the inventory list. - **SOLD** for items I no longer have - **_** or **?** for status unknown
C	i	Center Align.	Included Item Indicator	This column in normally blank. - **i** indicates the item is included in another entry such as a set or multi-pack. This allows me to record the individual items as well as the set or pack. The cost may be recorded in each item OR against the entire set or pack.
D	OWN	Center Align.	Quantity owned	This column is never blank. - **0** for items that have **ref** or **_** in PURCH#. - **1** in most cases unless items bought in same purchase.

Column	Header	Format	Purpose	Content
E	COND	Center Align.	Condition of the item	This column is normally blank. - Most items were purchased new or were purchased unused from an individual or at a train show. - Otherwise the field may contain notes such as Display, Used, or Sold. This field is a work in progress.
F	NO.	Center Align.	Manufacturer's item number	This column is never blank. - For Lionel items the prefix is dropped. If the item is not Lionel I may include the manufacturer's name unless the number is unambiguous. - Maybe be x or ? if number is not know. - The list is normally sorted on this column.
G	ROAD		Railroad name	This column is never blank. The railroad name or other marking. - LIONEL is typically used for accessories. - Reporting marks are used for railroads. - See ROAD TYPE for additional information Type)
H	ROAD TYPE	Center Align.	Type of Railroad	This column is never blank. - **RR** for a prototype railroad. - **X** for a private car owner. - **L** for LIONEL, LIONEL LINES or a Lionel fantasy name. Most accessories will use this also. - **M** for a Military car. - **S** for a Set - **#NA** for unknown
I	CLASS	Center Align.	Classification code for the item	This column in never blank. - Contains a code to indicate the item is an accessory, engine, freight car, passenger car, etc. See the detailed description of Class Codes in Table 3.

Column	Header	Format	Purpose	Content
J	TYPE		Item Type	This column is never blank. - This is the main description of the item. The description is terse and a sortable format. Rules vary based on CLASS. - Information gets more specific left to right. This is based on the military practice for item naming. - Examples: ENG D F7 ENG S 4-6-4 HUDSON BOX CAR DD BOX CAR HI FLAT CAR TANK CAR 1 DOME Etc.
K	SERIES		Series	This column may be blank. - Used to tag items belonging to a series. Examples: 6464, 9400 for box car series
L	YEAR	Center Align.	Year of Manufacture	This column is never blank. - 4 digit year the item was manufactured or cataloged.
M	COST		Item Cost (per each if quantity is >1)	This column is never blank. - Amount I spent on the item rounded to a dollar amount. May or may not include tax and shipping.stage, or not. - 0 for reference items and included items costed at the set level. - Cost may be arbitrary apportioned for items from a set or when the items are not separately listed on a receipt.
N	EXTND	Grayed Text	Extended cost	This column contains a formula for Quantity times Cost from OWN and COST columns. For row n the formula is = Dn*Mn
O	COMMENT		Note field	This column may be blank. - This is used as a general note field. - May be used as another series field, club name, or set name if from a set breakup

Column	Header	Format	Purpose	Content
P	VARIATIONS		Note field	This column may be blank. - Notes on notes variations such as lettering color, door color, etc.

Table 2. Purchases Tab Column Names and Content

Column	Header	Format	Purpose	Content
A	SEQ	Center Align.	Sequential Record Number	This column is never blank. - This is a sequential counter It carries no information and is not referenced anywhere else. - May be used to reorder the list if the list has been sorted on another column.
B	DATE	Center Align. Date Format	Date of Purchase	This column is never blank. - May be – actual purchase date, order date, or delivered date. The date may be updated when a order is received. - Partial deliveries may be split to distinct records.
C	VENDOR		Vendor name	This column is never blank. - May be dealer name, show name, club name, etc. - Names are entered in a consistent manner.
D	AMOUNT	Currency format in dollars and cents.	Amount of Purchase	This column is never blank. - Typically the invoiced amount including tax and shipping for mail order, and store purchases or rough amount for show purchases, etc.
E	METHOD		Payment Method	This column is never blank. - CASH, CHECK, AMEX, or MC, etc.
F	PURCH #	Center Align.	Purchase Number	This column may be blank. - This number is used to reference the purchase record in the PURCH# column of the inventory list. - This was originally an ascending integer but later numbers use a year prefix with a two digit count, for example: 200526. - **0** for purchases from the mists of time - May include the vendor name or other text if detail of the purchase is unknown. - **?** when I am not sure.

Column	Header	Format	Purpose	Content
G	RR Count	Center Align.	Count of inventory records that reference this purchase	- This column is only used to verify items have been added to the inventory list and PURCH # references entered. It contains a formula. This process is described later. It is not essential. - May be a count value or #N/A if no records found.
H	ITEMS		List of items in the purchase	This column may be blank. - This is a free format list of manufacturer item numbers or description of the item(s) purchased. It is not referenced elsewhere.
I	YEAR	Center Align.	Year of purchase	This column is never blank. - Four digit year of the purchase used for annual summary

Table 3. Class Codes

CODE	Meaning
ACC	Accessory – not classified to a more specific value.
ACC 1	Accessory – Bridges, Transfer Tables, Trestles, Piers, Tunnel Portals
ACC 2	Accessory – Bumpers, Illuminated Bumpers
ACC 3	Accessory – Railroad Signals, Signal Controllers
ACC 4	Accessory – Crossing Gates, Crossing Signals, Highway Flashers
ACC 5	Accessory – Platforms, Stations, Switch Towers, Gatemen Sheds, Horn Sheds
ACC 6	Accessory – Operating Loading Accessories: Barrels, Coal, Culvert, Cranes, Fuel, Logs, Ice, Sawmill, Water Towers, etc.
ACC 7	Accessory – Lineside and Roadside Accessories: Oil Derricks, Beacons, Billboards, Newstands, etc.
ACC 8	Accessory – Lamps, Floodlights, Searchlights
ACC F	Accessory – People
ACC K	Accessory – Building Kits
ACC L	Accessory – Loads: ISO Tanks, Cranes, Airplanes, Crates, Barrels, Coal, Shovels, Logs, Coil Covers
ACC P	Accessory – Power: Transformers, Command Control, Adapters, Power Supplies, Upgrades
ACC S	Accessory – Display Cases, Roller Bases
ACC T	Accessory – Track
ACC V	Accessory – Vehicles
CAB	Cabooses
ENG D	Engines, Diesel
ENG E	Engines, Electric
ENG S	Engines, Stream
FRT 1	Common Freight Cars: Box Cars, Refrigerator Cars, Hoppers, Gondolas, Flat Cars, Tank Cars
FRT 1 S	Sets or Packs of Freight Cars
FRT 2	Other Freight Cars: Ore Cars, Vat Cars, Auto Carriers, Milk Cars, Dump Cars, Barrel Ramp Cars, Condenser Cars, Slag Cars, Hot Metal Cars
FRT S	Special Freight Cars: Mint Cars, Aquarium Cars, Operating Cars, Giraffe Cars, Hobo Cars, etc.
MOT	Motorized Units
MOW	Maintenance of Way Cars
PAS	Passenger Cars
PAS Ann	Aluminum Passenger Cars, nn designates a set of related cars, such as PRR, AT&SF, EL, etc.
PAS E	Electric Passenger Cars

CODE	Meaning
PASS Hnn	Heavyweight Cars, nn designates a set of related cars
PASS Mx	Madison Cars
PASS Onn	O27 Passenger Cars, nn designates a set of related cars
PASS Snn	Streamliner Cars, nn designates a set of related cars
PASS Xnn	Old Time Cars
SET	Sets
SUBWAY	Subway Cars and Sets
??	Unknown

End of Tables

More to follow…

Tracking Purchases Vs. Inventory

This process is used to verify I have created inventory records for all the items in each purchase. This process in not required for day use. It is used to keep me honest when I get lazy by entering an order or purchase without creating the inventory records. It was also helpful in reconcilling the the inventory to purchase relationships when I first added the PURCH# reference to the RR spreadsheet.

RR Count Column

This field shows how many inventory records reference a purchase record. This nuber should match the number of items in the ITEMS column.

It will show #NA if the item is not in the inventory list. This may be a failure to add the item to inventory or a problem with the PURCH # reference. It could also be an item I do not wish to be in inventory. It could be a very old purchase where I have a receipt but I don't know what items were bought.

Otherwise it will show the number of inventory records that reference this purchase record.

This is a manual process I can do at will. It involves:
1. Run a pivot table against the RR spreadsheet to a PURCH Count. The result is a list of PURCH# and the count of that PURCH# found in the RR spreadsheet.
2. Copy the pivot table result to Columns A and B of the PURCH Count spreadsheet

Note: the formula in the PURCH spreadsheet RR Count column, row 2 is
              =VLOOKUP(F2,'PURCH Count'!$A:$B,2,FALSE)
 where F2 references the the PURCH # of the row 2. This formula is copied down to all rows in the RR Count column. This only need to be done once.