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**Introduction**

The Warehouse Locator System is an addition to our Warehouse Order Entry System. With the Warehouse Locator System, on hand inventory’s whereabouts can be tracked by product in multiple locations, or bins, within the warehouse. The Warehouse Locator system is available to ASP and User Based Priced clients.

The idea of the Warehouse Locator System is, we can tell you by warehouse location where your entire inventory is stored. You will tell us where you place your inventory. We will tell you which location to pull the inventory from. You must do this for all inventories at a store. (This feature can be turned on by store.)

Initially all inventory will be received into the 'DOCK' location.

From the 'DOCK' you will tell the system where you placed each product. The system will give you suggestions as to where to place the units based on unit movement.

There is a transfer program you can use to tell the system when you move inventory from one location to another.

When products are sold, either the Work Order or Pick List (or Load Sheet if you are using Load Sheet Processing) will list where to pull each product from. More than one warehouse location may be listed for the same product line if enough units are not available at the first location. The oldest product will be listed to pull first. The locator system will assume you pulled products from the location specified. If this is not the case, you must transfer products from where you actually pulled the product to where the system told you to pull it.

Inventory adjustments will be by product by location. Also the ‘net’ adjustment for a product will adjust the product file. It is feasible no adjustment will be made to a product, but adjustments are made to product counts by location.
Warehouse Locator Menu is an option on the Order Entry Menu.

The Warehouse Locator Menu.

Control key **WLYESNO** must be set to **Y** and Warehouse Locator **ACCESS** must be set to **Y**. You will need to call Technical Support to turn on the feature for a store.
Warehouse Design

The first step is to layout your warehouse and number all the bins or locations. We recommend you do this on paper first.

An example of a warehouse bin layout is below:

[Diagram of warehouse layout]

** If using racks, label the shelves continuing with the number scheme. In this example, row 2 would be 04, 05, 06; row 3 would be 07, 08, 09, etc.

The arrows indicate the direction of pull sequence.
Pull Sequence

Pull Sequence is the field we will use to determine the sequence to list product when it is to be shipped. It may be the same sequence as your location number. However, assume you numbered your bins like the example above: aisle one bin one slot one, aisle one bin one slot two, aisle one bin one slot three, aisle one bin three slot one, aisle one bin three slot two, aisle one bin three slot three, aisle one bin five slot one, aisle one bin five slot two, aisle one bin five slot three, aisle one bin seven slot one, aisle one bin seven slot two, aisle one bin seven slot three, aisle one bin nine slot one, aisle one bin nine slot two, aisle one bin nine slot three, aisle one bin eleven slot one, aisle one bin eleven slot two, aisle one bin eleven slot three. Or more likely 010101, 010102, 010103, 010301, 010302, 010303, 010501, 010502, 010503, 010701, 010702, 010703, 010901, 010902, 010903, 011101, 011102, 011103.

You might typically input a sequence number like this:

```
010101 010102 010103 010301 010302 010303
  101 102 103 104 105 106

010501 010502 010503 010701 010702 010703
  107 108 109 110 111 112

010901 010902 010903 011101 011102 011103
  113 114 115 116 117 118
```

It is far more efficient to move up one row and down the next than to move up and down every row. Every warehouse is different, so you will need to decide what sequence is best for you.
Bin Maintenance

Now that you have designed how your warehouse and how the pull sequence will work, enter these values in Bin Maintenance.

To aid in understanding the warehouse flow, our example will use a simple layout of 3 aisles and 3 bins. The pull sequence will be number from 1 to 9 accessing the bins up and down, row by row.

The Warehouse Location is a ten-character field whose format is defined by the user. Take care not to use special characters that cannot be represented by a barcode if you plan on using scanners. Typically the Warehouse Location consists of a combination of something like building, aisle, row, and shelf. Use whatever makes sense to you. The sequence you plan to pull inventory from when loading trucks is not dependent on the Warehouse Location.

Use the Print Barcode Label option to print labels for your bins. The location number, description, and pull sequence print on each label along with the barcode. The printed barcode is prefixed with special characters (H/) so when you scan one our programs know you just read a location barcode.

See the Scan Billing document for more information about scanning products.
You must create your Warehouse Locations using the **Add a Warehouse Location** function via Bin Maintenance. Each location must be input. We will use this to validate future input. You will need to create a location for the ‘Dock’. This is the default location for all inventories as they are received. Its maximum capacity is assumed to be unlimited.

Enter the Description of the location. If you have designed your warehouse location well you probably will need the description for very few locations.

Enter the estimated Maximum Capacity in Units that can be stored in this location. A default capacity value can be entered in control key **WLDFTMAX**. This will be used in reports to give you a list of where you have available room to store more inventory.

Enter the Pull Sequence as discussed above when designing how your warehouse will work.

The Put up Movement Code can be input or it can be calculated using the menu option Calculate Put up Sequence. Information about how this is determined is outlined below.
Put up movement code

We could call this the Put Up Sequence. It is quite similar to the pull sequence. However whereas the pull sequence is used for pulling an entire truckload and is usually based on going up and down most every aisle, the Put Up Movement Code will be based on where you want to place your fastest moving products. This may be a similar sequence as the pull sequence, but it might not.

Also the Put Up sequence is a single character field and the Pull Sequence is a five-digit field. You will see why shortly.

Back to our warehouse layout for example:

Assume our dock is right between 010101 and 011703.

You might match your Put Up sequence to your pull sequence like this:

```
010101 010102 010103 010301 010302 010303
101 102 103 104 105 106
A    A    A    A    A    A
010501 010502 010503 020101 020102 020103
107 108 109 110 111 112
A    A    A    B    B    B
020201 020202 020203 030101 030102 030103
113 114 115 116 117 118
B    B    B    C    C    C
```

Or you may want it to look something like this:

```
010101 010102 010103 010301 010302 010303
101 102 103 104 105 106
A    B    C    D    E    F
010501 010502 010503 010701 010702 010703
107 108 109 110 111 112
G    H    I    J    K    L
010901 010902 010903 011101 011102 011103
113 114 115 116 117 118
M    N    O    P    Q    R
```

Note the difference placing the fastest moving tires nearest to the dock. This is especially useful if you have a lot of customer pick up orders.
Calculating the Put Up Sequence

Besides the Pull Sequence associated with each warehouse location, each product has an associated Put Up Sequence. The system will use these Put Up Codes when suggesting where to place newly received product.

The Put Up Sequence is stored in one of the Product Record’s User Fields. Control record WLPUTUPF contains the user field you will use as the product put up code. For this discussion we’ll assume it is set to 3.

The Calculate Put Up Sequence program will accumulate selected product sales by unit, similar to, actually exactly like, the Product Ranking report. It then calculates the percent of your warehouse capacity you have set up for each Put Up Sequence code. And finally, allocate Put up Sequences code to each product based on the most unit sales first.

For example, if 15% of your warehouse is designated as code A put up, then products making up the first 15% of sales, using the fastest selling product or most units sold for the time period, will be set to a Put Up code of A. If B is the next 17% of capacity, then products that make up the next 17% of sales will be set to B. And so on until every product gets it’s Put Up Sequence set.

This program can be run as often as you like.

Or you can manually input a Put Up Sequence for every product via Product Maintenance, if you think you know better than the system.

Actually there may be certain products you want to keep in a particular place. Maybe there is a bin built especially for particular products or just a product you always want to keep in a certain bin. In these cases you can set the Product Put Up Code to ‘*‘, and the system will always use the warehouse location contained in the product record as the suggested place to put up newly received product.

Any Year / Period range can be used when calculating Product Put Up Codes.
An alternate method for calculating the put up sequence uses the product file maximum quantity on hand values if control key WLUSEMAX is set to Y. Instead of using sales in the calculation, the maximum on hand value is used. If you are using this feature, the sales range input screen above is not presented.

This program could be run from the Auto Report function daily, weekly, or monthly.

Typically when you run an ordering report you want to exclude Inter-Company sales. However, for calculating placement in the warehouse, we are only concerned with how many times we handle the product, thus Inter-Company sales should be included.

If you want to investigate how the put up code is calculated, you can set control record WLDEBUG to Y and a report will print showing how products were assigned put up codes. The report can also be emailed.
Put Up Receivers

The Put Up Receivers option allows you to put up multiple receivers at the same time as one load. It will calculate where product should be placed based on Put Up Codes and rules you set. You will then confirm that you placed the product in the suggested location or tell the system where you placed the product.

Receiving Product

As we said all products are assumed to be received in to the 'DOCK' location. This assumption helps keep the Warehouse Locator system segregated from the receiving function. Also, unless the truck unloads at each bin as it drives thru your warehouse, it is logically where product is received first.

From the DOCK you could merely use the transfer program to tell the system where each product is placed. But then all the work we did calculating the perfect Put Up Codes would be wasted. So we have the Put Up Receivers option.

Assume we have the above receiver.
Select Receivers to Put Up

First, receivers must be selected to be put up. The **Add a Put up Group** function does this.

Use the **Select to Put Up** option for each receiver to be ‘put up’.
The first receiver selected will pop up a panel asking for a group name. The receiver number will be suggested as the name, but you can call the group of receivers you are going to put up anything you want.

Multiple receivers can be selected to put up as a group.

The new group can then be selected to put up.

Put up groups can be made up of multiple receivers. The first five will be listed on the panel.
### Put Up Group Sort

Note that the sort order is listed in the heading of the screen. Use the **Change Sort Order** function to change the order of the products displayed.

We would expect you want the products to be put up listed in Location’s Pull Sequence, but other sort orders are available.

<table>
<thead>
<tr>
<th>Product</th>
<th>Location</th>
<th>Quantity</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>20017 UH741</td>
<td>UH JBS/75000X TP NG LNG</td>
<td>20</td>
<td>0.00</td>
</tr>
<tr>
<td>20017 UH934</td>
<td>UH P207/759915 LH90 LNG</td>
<td>20</td>
<td>0.00</td>
</tr>
<tr>
<td>20017 UH949</td>
<td>UH P207/7530X LH90 LNG</td>
<td>20</td>
<td>0.00</td>
</tr>
<tr>
<td>20017 UH690</td>
<td>UH P407/750X TP NG LNG</td>
<td>20</td>
<td>0.00</td>
</tr>
<tr>
<td>20017 UH695</td>
<td>UH P207/75400 Larsen LNG</td>
<td>20</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Confirm Product Put Up

To confirm you put the product up in the suggested location, merely select it with the confirm option.

The product is then transferred from the DOCK to the suggested location.
The product will show confirmed and can no longer be changed.
Changing a Suggested Put Up

Use the **Edit** option to change the suggested location if you put the product in a different location.

Input the location and the quantity.

The entire quantity does not have to go in the same location. If you split the quantity, a second line will be created for the remaining quantity so that a location can be specified for the location it is stocked in.
If you try to place product such that it will overstock a location, you will be warned.

Since our present capacity per location is an estimate and it does not consider the actual size of each product you may be able to place more product in a location than what the system thinks.

If you answer Y to continue, the input quantity will be considered confirmed.
After all product is put up and confirmed, you are done.

After all lines are put up, the Put Up Group will be flagged as done. It will be removed during the next nightly update.
How the suggested location is determined

The suggested location to put up a product is determined by each product’s put up code and the location’s put up code. The ‘Show Only Zero Qty Transactions’ default is N. This can be set to Y (blank to show all) with control key WLIQSHZR.

The available locations are reviewed in Put Up Code Sequence starting with the first Location with a Put Up Code equal to the Product's Put Up Code.

If control record WLPUTEW is set to Y the suggested location will be the first location of the same put up code that can hold the entire quantity.

If a location is not found then, if control record WLPUTNW is set to Y, the first location able to hold the entire quantity with a location code greater than that of the product’s will be the suggested location. (It is recommended this control record be set to N.)

If a location is not found then, if control record WLPUTEP is set to Y, the suggested location will be any location with the same put up code that can hold any of the product. This will mean there will be multiple suggested locations for this product.

Finally, the remaining product will be suggested to be placed in the first location with a location put up code of greater than the product put up code.

It is possible that a suggested location will not be able to be calculated. In this case the suggested location will be the ‘DOCK’ and the location where you put up the product must be input manually.

And recall Products with a Put Up Code of ‘***’ will always use their primary location as a suggestion.

You cannot put up product to the DOCK.
Bin to Bin Transfer

Transferring from location to location is fairly simple. Input the ‘from’ Product, Location and the ‘to’ Location and the number of units to be transferred.

A message will display showing that the product was moved.
Of course enough of the product has to be at the 'from' location. And the ‘to’ and ‘from’ locations must exist.

If you do not know the bin location, use the Find function. A product inquiry is presented and the Bin Location option can be used to locate the product location.
Using the Allocated option we can see the documents related to the product.

This could be a receiver that has not been put up or orders that have not been pulled.
Pulling inventory from the Warehouse

POS work orders, Pick Lists, and Load Sheets will list where to pull the product from. The system assumes you pulled the inventory from that location. If you do not, you must transfer the product from where you pulled the product to where the system told you to pull the product.

If control key WLPCKPUL is set to Y, the warehouse location is assigned by the pull sequence, otherwise the oldest receiver is used. The system, if followed, will assure that proper inventory rotation takes place.

Below is a sample Pick List listing where to pull product from:

```
ORDER NO: 31579 PAGE: 1

SHIPPING ORDER

CUSTOMER: ARCTIC SALE TIRES
135 ARTIC LANE
ANCHORAGE, AK
45664-0000
SHIP TO:

SHIP VIA:
TERMS: 04/10/08

ROUTE: F 010
CUSTOMER NO: 100510 SALES MAN NO: 1 ORDER DATE: 02/29/08

--------------------------------------------------------------------------------

PRODUCT                                      Location     Quantity
-------------------------------------------------------------------------------
103295439       001 0 GDY EAGLE ZRN1BSLTL225/50ZR16 00  DOCK          12.00  _________
103841203       001 0 GDY EAGLE VR50BSSLTL225/50VR16 00  010103        16.00  _________
25403           001 0 MCH P1957514 XA4 WWT
                      010302  2.00
                      010501  4.00
TOTAL UNITS       34
```
Available Inquiries

Content of a Location

Starting with Bin Maintenance, use the **Contents** option to see products at the Dock or search other warehouse locations.

This inquiry lists all products at a location. As you can see, we can stock multiple items in a location.
Also, within the detail option, the **History** option shows the transfers from the Dock to the Warehouse location. The type transactions are R for receiving, T for Transfer and I for Invoice.

The **Display to be Done** function shows products that have not been put up.
Using the **Bin Location** option in the Point of Sale and Order Entry product inquiry shows where a particular product is stored.
Physical Counts and Adjustments by Warehouse Location

Physical Counts menu is located on the Inventory Menu.

After the file is created, enter your counts.

Units will be adjusted by warehouse location. Any product that has a net adjustment will have its on hand inventory adjusted also.
Input of physical counts will be by warehouse location. All locations to be counted will be listed in Pull Sequence. Select the location you want to input counts for.

Input the units of each product counted. If you found a product in the bin not listed on the screen, use the Add Product function to list the product.

Counts can be input for specific locations if control key WLPIBYBN is set to Y. When creating the 'To be Inventoried file', you are allowed to select a warehouse location range. This allows an inventory file to be created to input counts for only the location you specify. If a value is not input, all locations are created in the file.
Product File Warehouse Location Maintenance

A warehouse location and alternate location can be entered in the product file using Warehouse Location Maintenance located on the Product Maintenance Menu.

Warehouse Location and Alternate Location can easily be maintained with this option.
Warehouse Location and Alternate Locations are 10 character fields that can print on the Pick List. Also the Pick List and Shipping Feedback function can be displayed in Warehouse Location sequence.

Warehouse Location and Alternate Location can be formatted as you desire. Here are a few recommendations:

Store fast moving products nearest to where they will be loaded and unloaded. (Use the Product Ranking Reports, unit ranking not dollar ranking, to help determine your fast moving product.)

If you use a multi-digit number in your warehouse location scheme, remember to always key leading zeros.

Sorts by Warehouse Location, Pick List for example, will be from left to right, with letters listed before numbers. For example:

ABA
A1A
Z1A
01A (Zero one A)
1
10
2

Format Warehouse Location by the most convenient way to load and unload product. For example:

By Building
By aisle or row
By position with in the aisle or row, i.e. bin
By level of the bin, if stackable
By position in the bin

You want to go to building one and then up & down each row – not row one of building 1 and then row one of building two.

Above is much better than having building at the end or in the middle of the Locating number.

You only have one building? Number your locations starting with “A” or “1” as if you have more than one building. You’ll be grateful when you decide to lease that overflow building.

If you intend to go up and down each row, consider numbering the bins from 01 to 99 on the even rows and 99 to 01 on the odd rows; thus allowing you to pick down one row and up the next row.

Most important, draw out your warehouse on paper and number all the locations before you start to assign locations to products (and before you paint number in the warehouse).

You can print any inventory report in warehouse sequence. The Product List prints Warehouse Location. Before you finalize your schema input a few locations and see that the sequence is what you expect.