

The New Database

Re-Order Point / Economic Order Quantity (ROP/EOQ) Program

Released in Upgrade U2002.3

Overview

Almost since its inception, the Database system has operated with a rudimentary inventory control system. Not only does it not properly balance the percentage of performing versus non-performing inventory, but its current sell-one buy-one methodology imposes a costly time and labor process at the stores and through the DC's. While competitive pressures and customers' needs increase, inventory will continue to be the most important asset of any HVAC/R wholesale business. For these reasons the Database systems' ability to assist Johnstone's with improved inventory management, must be a priority.

It is difficult if not impossible, to create an automated inventory control system that will satisfy the different practices, beliefs and opinions with regards to purchasing and inventory control. However, there is commonality and "best practices" covering as much as say 80% of inventory control parameters. It is this 80% that we have tried to incorporate in the new ROP/EOQ system. While we welcome your input and ideas on changes or enhancements, we firmly believe this to be a significant "first step" in improving the inventory control functions of the DBS software.

The new ROP/EOQ (recommended order point / economic order quantity) program is based in large part on the best practices defined in *Reengineering the Distributor*, a book by respected wholesale distribution consultant and inventory guru *Eugene Roman*.

The new system represents a significant change in inventory methodology from how the DBS system currently works. It is better! It will take time to become familiar and comfortable with how the new functionality suggests controlling your inventory. Johnstone Stores thus far have found this period of adjustment to be 4-8 weeks and once familiar with the new system, would not be without it!

Important –

The ABC ranking must be active and calculating to enable the new ROP/EOQ to work properly. If the A,B,C, D ranking is not yet enabled in your system, please contact Store Support immediately for activation. You can see the ABC rank in the stock status screen (to the far left) and it is also shown in the forecast screen.

Among the many factors considered in determining “how much and how often” to buy a product, the following are the defaults set in the new DBS ROP/EOQ program.

Lead Time = 12 days (time of order to time received)

Vendor Review Time = 7 days (assumes Corp order once per week)

Safety Stock Percent – (allowed percent above normal stock level)

A items = 60%

B items = 45%

C items = 0%

D items = 0%

Seasonal - 50% of sales in 4 consecutive months, 2 years running

Cost of Ordering = \$1.50 per line (average cost per line to buy, receive, stock a single line, taken from industry averages)

Cost of Carrying = 30% (considering all costs associated with carrying Inventory, annual percentage)

Please read the following steps and / or instructions to properly implement the new ROP/EOQ program.

1. Menu 27.1.4 New ROP Override Parameters

Follow these set up instructions and set the defaults as listed below (these are the same parameters used on the current system).

Lines 1 - 4 apply to new ROP/EOQ program

- 1) If I've sold **2** units of a product
- 2) in the last **12** months,
- 3) and the average cost is less than **1600** dollars
- 4) I want to override the **0** (zero) ROP with **1** (one)

Lines 5-8 are not applicable to the new program.

2. Menu 27.1.26. ROP / EOQ Calculation & Impact Report

This report is the same one used in the current ROP program. When run for the first time with the new ROP/EOQ calculation, it will be a large report that will allow you to review the “impact” or change in ROP either *prior to* or *after* updating your products. Please read these options carefully before proceeding.

Option 1 - Menu 27.1.26.1 ROP CALC, IMPACT REPORT & UPDATE

This option will run the new calculation and update your products with the new ROP's. It is recommended that if you choose this option you run it immediately after placing your weekly Corp order allowing time to review the impact, make changes and flag exceptional sales prior to your next Corp order.

Option 2 - Menu 27.1.26.2 ROP CALC & IMPACT REPORT ONLY - NO UPDATE

This option will run the new ROP/EOQ calculation but will not actually update products with new ROP's. This will allow you to review the impact, make changes and flag exceptional sales without having the changes affect your current ordering system, allowing more time for your review before implementation.

Important - If the current ROP calculation program is running automatically in your Day-End, it will need to be deactivated before implementing the new ROP/EOQ. Please contact Store Support to accomplish this.

3. 27.1.2 Flag Exceptional Sales

Flagging exceptional sales is an important discipline in any ROP/EOQ program. If you have not been flagging exceptional sales, you will need to invest time initially to **review and flag exceptional** sales to eliminate them from the ROP/EOQ calculation. If you have been consistent in flagging exceptional sales, you are ahead of the game and should maintain this discipline.

With the new programming you will have a Day End report that lists possible exceptional sales. Please take a few minutes each day to review this report. As a result, the time spent on the corp. order will be greatly reduced and you will greatly reduce the chance of ordering unwanted inventory.

There are two methods to **identify** and **flag** exceptional sales:

- 1.) Use this option after running 27.1.26.1 or 27.1.26.2 as explained above:
View the products from the impact report from 27.1.26 and use menu path 27.1.2 to flag the exceptional sales.

OR

- 2.) Use this option only if you run 27.1.26.1 as explained above:
Run a forecast 27.5 – and use the “SE” option in this menu path. Carefully work through the forecast identifying exceptional sales. This potentially will take from 10-30 hours, so it is suggested you start the day after your Corp order is placed and the new ROP is run, allowing time to make adjustments prior to your next Corp order.

4. Implementing the New ROP/ EOQ

Important - If the current ROP calculation program is running automatically in your Day-End, it will need to be deactivated before using the new ROP/EOQ. Please contact Store Support to accomplish this.

The new ROP/EOQ calculation can be run manually, or automatically as an addition to your Day-End processing. If you choose to run the program manually, it is recommended that you do so on at least a weekly basis. To run the program as part of your current Day-End process, please contact store support for activation.

5. Viewing ROP/EOQ calculations

After the new ROP/EOQ calculation is run, you may review the changes and results of the calculation individually by product using menu path 27.1.25. If you are uncertain about a products' ROP, suggested order quantity, etc, please review the information from this menu path before calling for support.

Example:

ABC	C	ABC RANKING
PL	3	COST POOL GROUP
A.PROD.NO	B10-120	
BRANCH COST	6.	140
QTY.12MO	3	QUANTITY SOLD - LAST 12 MONTHS
SAL.12MO	38	SALES DOLLARS - LAST 12 MONTHS
OROP	1	OLD ROP
SEAS	Y	SEASONAL ITEM (Y-YES N-NO)
UP.4MO	3	SALES FOR THE UPCOMING 4 MONTHS
LST.6MO	0	SALES FOR THE PAST 6 MONTHS
NROP	1	NEW ROP
EOQ	3	ECONOMIC ORDER QUANTITY
SPCK	25	STANDARD PACK
AVG LEAD TIME	7	AVERAGE LEAD TIME IN DAYS

6. Seasonality

By default, seasonality is determined by the following calculation: if 50% of sales occurred in 4 consecutive months, 2 years running, it is flagged as seasonal. By default, this calculation is made on every cataloged product, regardless of whether Corporate transmits a seasonal flag on that item.

You can override the above seasonality calculation and set a seasonal or non-seasonal flag by using Menu path 12.3.2.2, field # 5. By inserting an "F", the system will go back 12 months, and look ahead 2 months. Essentially, this is a seasonal flag, but only looking at last year's sales for the upcoming 4 months. Or by inserting a "B", the system will look back 6 months from the current date.

This is a non-seasonal flag telling the system to base calculation on the previous 6 months sales.

7. Setting Minimum ROP

In certain situations you may choose to keep a higher stock level even though sales may not justify it. This Minimum ROP – Menu path 12.3.2.3 (field # 6 in Product Detail) provides for this control. This will allow the ROP to move up as needed by an increase in sales, but will not allow the ROP to go below the minimum specified.

You are currently able to set a Minimum ROP by inserting a “0” in front of the ROP. Additionally, the computer will now ask how long you want to keep the “0” in front of the ROP. Hitting the return key will make it stay “forever”, otherwise enter the number of months you want the override in effect.

8. Lead-time

A default minimum lead-time of 12 days is applied to all catalog products. Once a product has at least two purchases and receipts (most products will fall into this category) an average lead-time will be calculated replacing the 12-day default.

The new ROP/EOQ system considers lead-time by calculating the “date of order to the date of receipt for the last 5 receipts for a specific product, then averaging the lead-times of the 5 receipts to determine its average lead-time. Product ordered on non-preseason PO’s only is considered for calculation.

Advantages - Improvements

Review & Order time cut in half

Due to ordering fewer line items per order, purchasing more reasonable quantities of A, and B items. Orlando and New Orleans used to have 600-700 line item corp. orders. Now they are averaging 300-350.

Reduce Check-in time

Less lines per order equals less time checking in and receiving Corp orders, allowing customer back-orders to be shipped the same day of receiving, improving delivery and customer service.

A True ROP is used

The system now orders when the ROP is reached, and it orders an “economical order quantity”, as opposed to the old sell one buy one system.

Increase stock level of A & B items and buy them less often

This enables you to more easily meet minimums to buy direct earning better discounts or freight allowances. The system suggests buying higher quantities of A & B items since they have the greatest impact on sales and these should never be out of stock.

Decrease stock level on the less popular items, i.e. C & D

Less inventory of those SKU's that contribute to a small percentage of overall sales.

Increased transferring of excess product within same company stores.

The forecast will show excess availability in your branches saving you purchasing them directly. However these calculations are based solely on transaction history and your judgment may be needed to override these suggested transfers.

Cautions

1. In some cases, the system may initially order more inventory than cash flow will allow. In particular, this may occur with stores that have not been using the old ROP/EOQ system. Initially you may choose to manually reduce purchase quantities to prevent an unacceptable jump in total inventory dollars. The system will suggest buying 3 to 6 months or even 12 months supply of the very low dollar value SKU's. It just makes good sense not to order a .80 cent item every week (given the cost of ordering and handling).

However, to reap the full benefits of the new system, after a few months you should begin to allow the purchased quantities to be controlled by the build in calculations.

2. Exceptional sales should be flagged preventing the system from ordering products you do not intend to stock. The system will calculate ROP and EOQ based on total sales, including those exceptional sales unless they are flagged as such in the system. Either at time of sale or review of forecast, flag the item as exceptional eliminating it from future calculations.
3. Some stores may see suggested transfers that you do not agree with. An item will show as overstock-available for transfer, if the amount on hand is more than twice the ROP (i.e. $ROP = 2$, on-hand = 5, overstock = 1). For example, the parent store has 1 on its forecast and the branch has 2 in overstock, it show up on the forecast of the parent store suggesting a transfer from the branch. Of course if it were a D item with a cost of several hundred dollars, you may wish to transfer it, but it's a \$5 item that they will sell in a few months, you may choose not to transfer it.