

Microsoft Dynamics® AX 2009

Handling customer returns in Microsoft Dynamics AX 2009

White Paper

This paper describes the dedicated module for handling customer returns that was introduced in Microsoft Dynamics AX 2009. Built on the sales order framework, the return order module allows for handling customer returns in a controlled and efficient manner

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Table of Contents

Introduction	3
Return order process.....	4
Overview.....	4
Creating a return order	5
Create a return order header	6
Create return order lines.....	10
Navigate to the original sales order	13
Print the return order document.....	14
Charges	14
Up-front replacement.....	15
Working with return orders using Enterprise Portal	17
Creating return orders	17
The arrival process	19
Identifying the arrived products in Arrival overview	20
Editing the arrival journal.....	21
Processing the quarantine order.....	22
Disposition codes and disposition actions	24
Replacement item	26
Packing slip	28
Invoice	28
Return orders and intercompany	31
Setup	31
Simple intercompany returns.....	33
Direct delivery shipment returns between three parties.....	34
Reports	35
Return volume.....	36
Return statistics ranking (Top X report)	37
Return cycle time.....	38
Configuring .return order settings.....	39
License and configuration.....	39
General settings.....	39
Disposition codes	41
Return reason codes.....	43
Inventory cost and ledger postings	45
Underlying code and processes	47
State model.....	47
Return order header	47
Return order line.....	48
Inventory transactions.....	48
Inventory transactions and the Allow reservation flag	48
Inventory transactions, reject and scrap lines.....	49
Sequence diagrams	50

Introduction

Microsoft Dynamics AX 2009 introduces a process for handling customer returns.

This process involves a new document type—the **Return order**, and requires a number of steps for receiving, inspecting, and disposing of returned items.

This paper provides detailed descriptions of the customer return scenarios and processes that are supported. This paper also describes how customer returns affect costing and on-hand inventory quantities. Finally, the paper describes how to configure return orders and available reports.

The following screen shot is an example of the **Return orders** form.

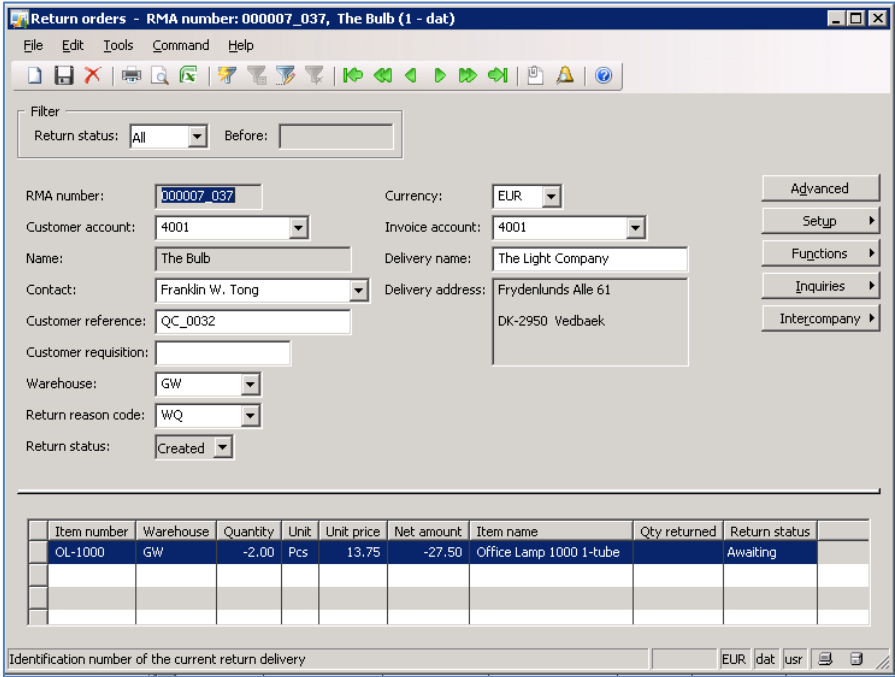


Figure 1 Return Order Details form

Return order process

Overview

The following diagram provides an overview of the return order process.

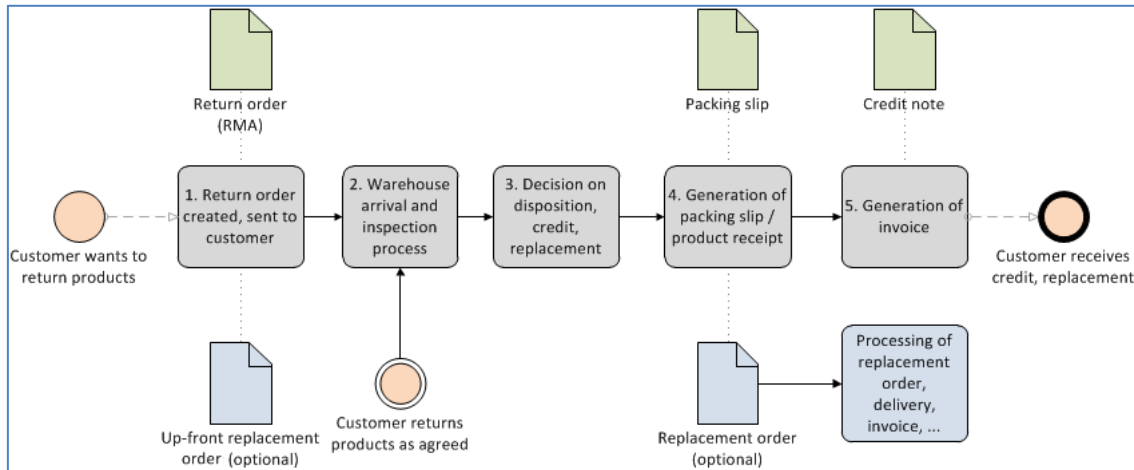


Figure 2 Overview over return process

The Return order process is as follows:

1. The creation of a return order.

The return order formally documents the authorization to return any defective or unwanted products. The existence of a return order only authorizes the return of products. It does not obligate the company to accept the products back (for credit). As part of accepting the return, it is possible to authorize sending a replacement item before the defective item has been returned.

2. Warehouse arrival and inspection.

The arrival process involves performing an initial inspection and validation against the return order document. The Return order module further supports quarantining the returned items for further inspection and quality control.

3. The disposition decision.

The inspection process concludes by deciding what to do with the returned products. This includes deciding on credit action and whether a replacement should be issued.

4. The generation of a packing slip.

The generation of a packing slip commits the disposition decision made in Step 3, and finalizes the logistics processes.

5. The invoicing process.

The invoicing process generates the credit note, if applicable, and then closes the return order.

Creating a return order

This section describes the process for creating a return order by using the Microsoft Dynamics AX client. It also describes the semantics of the data fields on the return order tables. The following diagram shows the procedure for creating a return order:

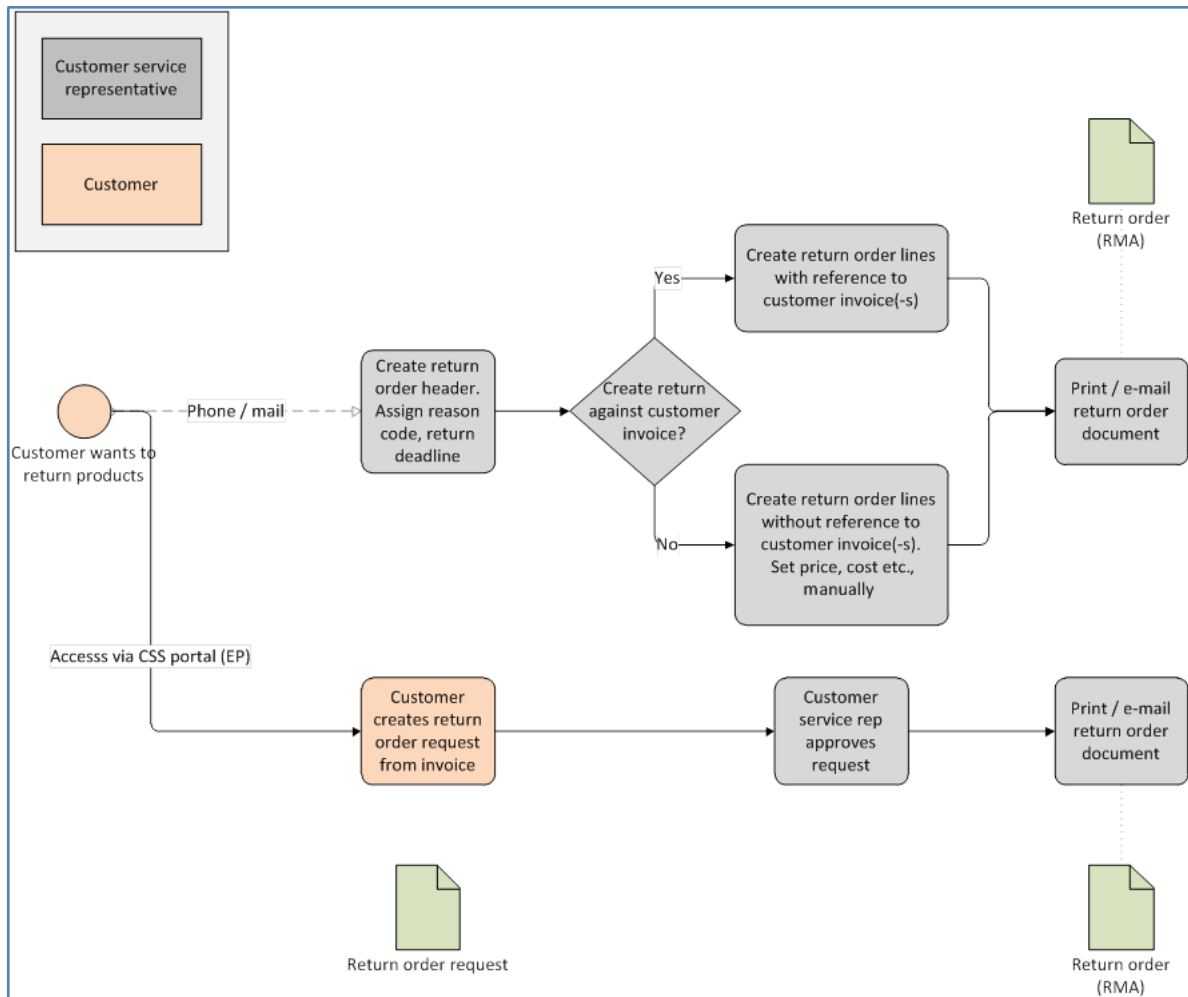


Figure 3 Process for creating a return order

The return order process is initiated by the customer in response to a defective or unwanted product.

When accepted by the company, the request is documented by a return order. This return order becomes the focal point of the internal processing of the returned product or products.

The return order can be created in one of the following ways:

- By the customer service representative using the Microsoft Dynamics AX client.
- By the customer using the customer self-service portal in Enterprise Portal for Microsoft Dynamics AX.
- Programmatically, using an Application Integration Framework (AIF) service. This requires coding, and is not described in further detail in this paper.

Create a return order header

The return order is similar to the sales order and is created either from:

- The **Return Orders** list page, **Accounts receivable** > **Return Orders**
- The **Return Order Details** form, **Accounts receivable** > **Return Order Details**

The following screen shot is an example of a return order.

The screenshot shows the 'Create return order (1 - dat)' dialog box. It is organized into three main sections: 'Customer', 'General', and 'References'.
- **Customer section:** 'Customer account' is set to '4002' with 'The Bright Idea' as the contact. 'Delivery address' is 'Frydenlunds Alle 61, DK-2950 Vedbaek'. 'Invoice account' is also '4002' with 'The Bright Idea' as the contact.
- **General section:** 'RMA number' is '000015_037', 'Deadline' is '5/27/2011', and 'Currency' is 'DKK'. 'Sales order' is '00034_036'. There are empty fields for 'Return reason code' and 'Warehouse'. An 'Intercompany' checkbox is present and unchecked.
- **References section:** 'Customer requisition' and 'Reference' are both empty.
- **Buttons:** 'OK' and 'Cancel' are at the bottom right.
- **Status bar:** At the bottom, it shows 'Customer account that generated the order.' and 'EUR dat usr'.

Figure 4 Create return order

The initial information that must be provided to create a return order is listed in the following table. Only the fields that are specific or important to the return order are mentioned.

Field	Contents	Comments
Customer account	Reference to Customers table.	An existing customer account must be provided.
Delivery address	The "Return-to" address.	The company address is used by default. If a specific warehouse is selected on the header, the delivery address changes to the delivery address of the warehouse. The address can also be edited on the Return Order Details form.
Site / Warehouse	Receipt site / warehouse.	The delivery address for the return order is determined from the delivery address of the site / warehouse. In Figure 4 the field site is not enabled.
RMA number	The identifier of the return order (AOT name: ReturnItemNum).	The RMA number is used as an alternate key throughout the return order module. The RMA number is assigned from the RMA number sequence found on the Accounts receivable parameters form.
Deadline	The "valid until" date of the return authorization.	This value is provided as a default: Today() + Period of validity The period of validity is specified in Accounts receivable > Setup > Parameters > General > Return orders (RMA) The deadline can be edited later.
Return reason code	The customer's reason for returning the products.	This is selected from the list of user defined reason codes. For more information, see Return reason codes . The return reason code can be edited later.

Table 1 Information entered when creating a return order

Similar to the other sales and purchase order forms, the **Return Order Details** form has two modes: **Simple** and **Advanced**.

In the following section, when we describe the interface of the form, we are referring to **Advanced** mode.

The following screen shot is an example of **Return order details**.

Return orders - RMA number: 000008_037, The Bright Idea (1 - dat)

File Edit Tools Command Help

Filter
Return status: All Before:

Overview General Setup Address Other References

Return order
RMA number: 000008_037
Return reason code: FORM
Deadline: 5/26/2011
Sales order: 00026_036
Currency: DKK
Customer account: 4002
Invoice account: 4002
Contact:

Contact information
E-mail: bright@test.test

Status
Created date and time: 5/26/2011 01:29:25 pm
Return status: Created

Replacement
Replacement reference:
Up-front replacement:

Simple
Setup
Functions
Inquiries
Intercompany

Lines General Other Dimension

Item number	Configuration	Size	Color	Warehouse	Batch number	Serial number	Quantity	Unit	Unit price	Net ar
*										

Setup (b)
Functions (g)
Inventory
Intercompany

Identification number of the current return delivery EUR dat usr

Figure 5 Return Order Details form

The following table lists the additional fields of specific interest to the return order header that are not available on the initial **Create return order** form.

Field	Contents	Comments
Return status	Shows the status of the return order.	See State model .
Replacement reference	Sales order number of a replacement order, if created.	A replacement order can be created in two ways: As an "up-front replacement" prior to receipt of returned items or as a result of selecting a disposition code implying a replacement. If the replacement order is deleted, the reference is removed.
Up-front replacement	Indicates whether the replacement order was created "up-front".	
Address fields		The return-to address that is printed on the return order document is initialized from company/site/on header/warehouse on header or manipulated manually. Note: If the site / warehouse on the return line do not match those on the header, the return line will not be listed in the arrival overview of the delivery warehouse, see Identifying the arrived products in Arrival overview It is advisable to ensure that the site/warehouse settings of the return order line match those of the return order header.
Direct delivery	Specifies that the return order participates in a direct delivery intercompany chain.	For more information about intercompany and return orders, see Return orders and intercompany .

Table 2 Additional fields for the return order header

Create return order lines

After you complete the header, you can create return lines in one of the following ways:

- Enter the item details, quantity and other information manually on the return line.
- Create a return line by using the **Find sales order** function.
The **Find sales order** function establishes a reference from the return line to the invoiced sales order line and retrieves line details such as item number, quantity, price, discount, and cost values from the sales line. The reference ensures that the line details cannot be changed. It also validates that return orders are not created for a greater quantity than was sold on the invoice.

Note: Return lines that are created with reference to a sales order are handled as corrections to or as reversals of the sale. The following screen shot shows an example of using **Find sales order** to create a line from a customer invoice. You can access this menu item from the **Return orders** form.

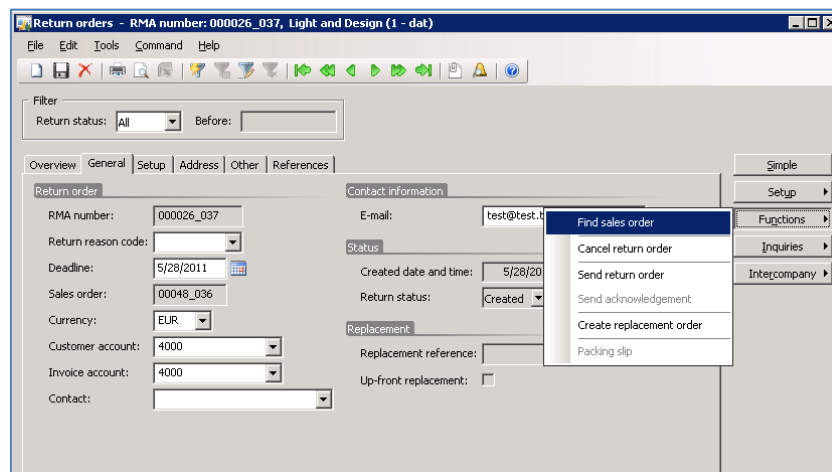


Figure 6 Use Find sales order to create a line from a customer invoice

For more information and an illustration of the differences between the two approaches, see [Inventory cost and ledger postings](#).

The following table provides a list of fields that are of particular interest on the return line, and describes the fields and settings that are unique to or have special semantics for return orders.

Field	Contents	Comments
Quantity	AOT name: ExpectedRetQty The quantity that is expected to be returned.	Quantity on return orders must be negative. It will, however, appear as positive on the RMA document. The Quantity field on the return line is <i>not</i> the same field as the Quantity field (AOT name: SalesQty) on the Sales line. The SalesQty field also appears on the Return Order Details form where it is labeled Qty returned .
Quantity returned	AOT name: SalesQty The quantity that has been returned.	This field is used to keep track of the quantity that has been returned.
Return status	Status of the return line.	For more information, see State model .
Estimated time of arrival	AOT name: ReturnDeadline The "Valid until" date for the line.	Defaulted from the header. The line fields Estimated time of arrival , Actual arrival date , and Closed date are used to generate statistics about the return process.
Actual arrival date	AOT name: ReturnArrivalDate The date of arrival of returned item.	The line fields Estimated time of arrival , Actual arrival date , and Closed date are used to generate statistics about the return process.
Closed date	AOT name: ReturnClosedDate The date of closing—invoicing—of the line.	The line fields Estimated time of arrival , Actual arrival date , and Closed date are used to generate statistics about the return process.
Return lot ID	AOT name: InventTransIdReturn Lot ID of the referenced invoice line.	When a return order line is created with reference to a sales order, this field holds the Lot ID of the referenced order line. This value is used to correctly reverse the postings of the invoice in General ledger and in inventory if the return line is invoiced.
Return cost price	AOT name: CostPrice The unit cost price of the returned item.	When a return order line is created with reference to a sales order, this field is read only and will hold the cost price of the invoiced item. When a return order line is created without reference to a customer invoice, the field holds the inventory cost value of the returned item. By default, the field uses the item master value, if a cost value has been set up for the item.

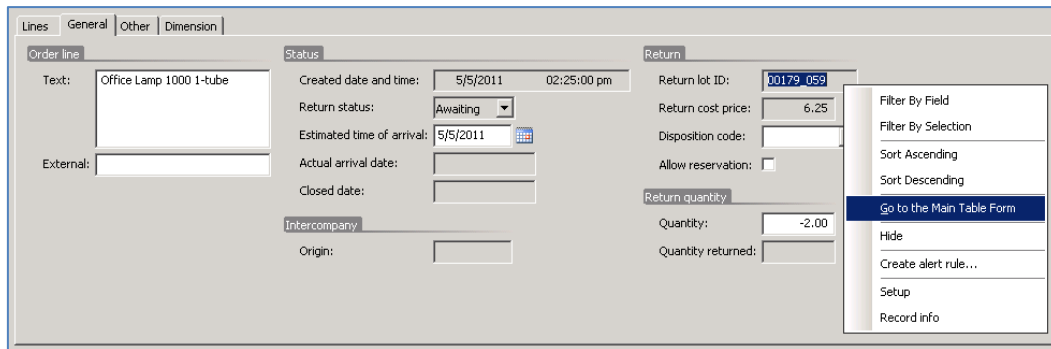
Field	Contents	Comments
Disposition code	AOT name: ReturnDispositionCodeId Code expressing how the returned items should be disposed of, and whether or not the customer should be credited.	The Disposition code is the key field of the return line. For more information, see Disposition codes . Notice that the disposition code is present on the return line. This implies that the full quantity on the return line will be handled in the same way. It is not possible to specify that part of the line's quantity should be scrapped, and part of the line's quantity should be kept. If it is determined that the returned lot cannot be dealt with in a uniform way, the line must be split into several return lines. The Return module contains functionality for splitting return lines during the arrival process. For more information, see The Arrival process . In most cases, the disposition code will be specified during the arrival process. But where the items should not be returned physically, it is possible to assign disposition codes with the action Credit only . If a disposition code with the action Credit only is assigned to a return order line, the status of the line will change to Received and may be invoiced immediately.
Allow reservation	AOT name: ReturnAllowReservation When selected, the incoming, expected items will appear as Ordered in on-hand calculations.	The Allow reservation flag is used in cases where the items being returned are known—or assumed—to be in perfect condition. For example, Allow reservation could be used for items sold conditionally to a distributor who can return the items if they are not sold to other customers. In that case, it is desirable to have the incoming returned quantity appear in on-hand overviews and become available for reservations. When Allow reservation is not selected (default setting), the incoming returned items are assumed to be of dubious quality. In that case, the incoming lot does not appear in on-hand overviews and cannot be made the object of reservations. For more information, see Inventory transactions and the Allow reservation flag .
Item reference fields		In most cases, these fields are used to hold a reference to a quarantine order, should the incoming lot have been sent to inspection.

Table 3 Additional fields for the return order line

Navigate to the original sales order

If the return order line is created from a customer invoice by using the Find sales order function, it is possible to navigate to the original sales order for which the customer invoice was created:

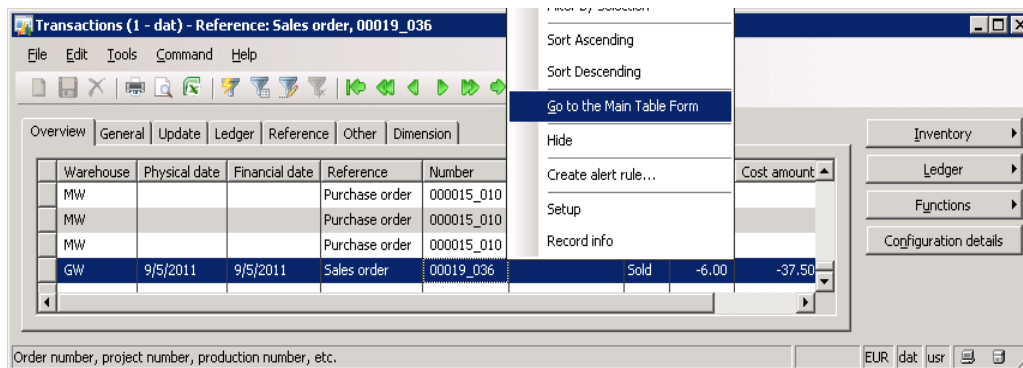
1. Make sure the **Return order** form is in **Advanced** mode.
2. Navigate to the **General** tab for the line.
3. Right-click the **Return lot ID** field that identifies the lot ID of the original sales line, and select **Go to Main Table Form**.



The screenshot shows the 'Return Order Details' form in the 'Lines' section. The 'Return lot ID' field is highlighted, and a context menu is open with the option 'Go to the Main Table Form' selected. Other fields visible include 'Text: Office Lamp 1000 1-tube', 'Created date and time: 5/5/2011 02:25:00 pm', 'Return status: Awaiting', 'Estimated time of arrival: 5/5/2011', 'Actual arrival date', 'Closed date', 'Intercompany', 'Origin', 'Return cost price: 6.25', 'Disposition code', 'Allow reservation', 'Return quantity', 'Quantity: -2.00', and 'Quantity returned'.

Figure 7 Return Order Details form, Lines section

4. The **Inventory Transactions** form opens with the inventory transaction with the selected lot ID highlighted.



The screenshot shows the 'Inventory Transactions' form. The 'Number' field is highlighted, and a context menu is open with the option 'Go to the Main Table Form' selected. The form displays a table of transactions with columns: Warehouse, Physical date, Financial date, Reference, Number, Sold, and Cost amount. The selected row is: GW, 9/5/2011, 9/5/2011, Sales order, 00019_036, Sold, -6.00, -37.50. The form also shows a menu with options: Sort Ascending, Sort Descending, Go to the Main Table Form, Hide, Create alert rule..., Setup, and Record info.

Warehouse	Physical date	Financial date	Reference	Number	Sold	Cost amount
MW			Purchase order	000015_010		
MW			Purchase order	000015_010		
MW			Purchase order	000015_010		
GW	9/5/2011	9/5/2011	Sales order	00019_036	Sold	-6.00 -37.50

Figure 8 Inventory Transactions form

5. Right-click the **Number** field and select **Go to Main Table Form** to navigate to the original sales order.

Print the return order document

When the return order is created, the return order document may be printed or sent electronically to the customer.

You can generate the document to print from either of the following navigation paths:

- **Return Orders (list) > Receive > Other information > Send Return Order**
- **Return Order Details (header) > Functions > Send return order**

Note: Generating a return order document is not journalized or otherwise tracked in the system, and it does not constitute a mandatory step in the return order process. Also note that the return order document can be printed and re-printed at any point during the process.

The return order document has a fixed format, and will always include the three item dimensions and two tracking dimension columns, as shown in the following figure.

Return to:																									
The Light Company, General warehouse Delivery address of GW warehouse. DK:2950 Vedbaek	Telephone Fax Giro Tax exempt number 12345678 Recipient Enterprise number																								
Returned by:																									
The Bulb Claudio Coello 91 28006 Madrid ES	Return order RMA number: 000001 037 Return reason code: FORM Date: 30-05-2011 Page: 1 of 1 Customer reference: QO_01234 Contact: Karl Simon Cazette Customer account: 4001																								
Items to be returned by: 18-06-2011																									
<table border="1"><thead><tr><th>Item number</th><th>Configuration</th><th>Size</th><th>Color</th><th>Batch number</th><th>Serial number</th><th>Quantity</th><th>Comment</th></tr></thead><tbody><tr><td>QL-1200</td><td></td><td></td><td></td><td></td><td></td><td>2,00</td><td></td></tr><tr><td>QL-1600</td><td></td><td></td><td></td><td></td><td></td><td>4,00</td><td></td></tr></tbody></table>	Item number	Configuration	Size	Color	Batch number	Serial number	Quantity	Comment	QL-1200						2,00		QL-1600						4,00		
Item number	Configuration	Size	Color	Batch number	Serial number	Quantity	Comment																		
QL-1200						2,00																			
QL-1600						4,00																			

Figure 9 Return order document

Charges

Fees and charges can be added to the return order by using one or more of the following methods:

- Added manually to either the return order header or return order line.
- Added automatically to the return order header as a function of the return reason code.
- Added automatically to the return order line depending on the disposition code of the line.

Charges will be added automatically after the return reason code or disposition code is assigned to the line. If the reason code is subsequently changed, the existing charge entry will not be removed, and a new one may be added from the new reason code.

When adding charges to return order lines, consider that charges calculated as a percentage of the line or order value become negative when the order or line value is

negative, unless the percentage is also a negative number. For an example, see the following figure:

Misc. charges code	Transaction text	Category	Misc. charges value	Currency	Keep
Handling	Handling	Percent	-15,00	EUR	<input type="checkbox"/>

Figure 10 Enter misc. charges percentages using a negative number

A charge with a negative value will constitute a credit to the customer.

For more information about automatic charges, see the sections [Disposition codes](#) and [Return reason codes](#).

Up-front replacement

The up-front replacement function allows for the delivery of a replacement item to the customer prior to the return of the defective item. This is useful if, for example, the item is a machine part that cannot be removed unless a spare part is available to take its place.

The up-front replacement order is an independent sales order. The header information is initialized from the customer, and the line information is initialized from the return order. The replacement order may subsequently be edited, processed, and deleted, independent of the return order. When the replacement order is deleted, a warning message is displayed to inform the user that the order was created as a replacement order.

The following diagram describes the up-front replacement process.

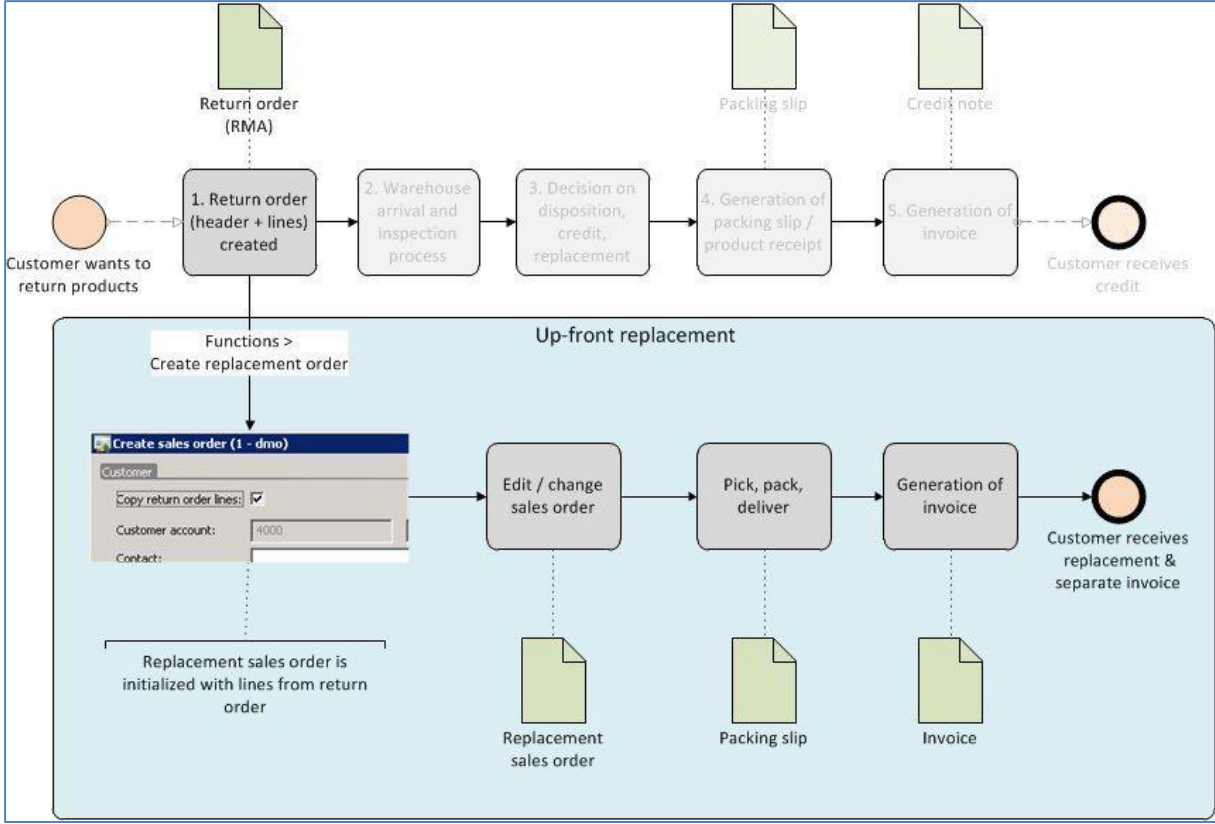


Figure 11 Up-front replacement process

The return order carries a reference to the replacement order. See the following example:

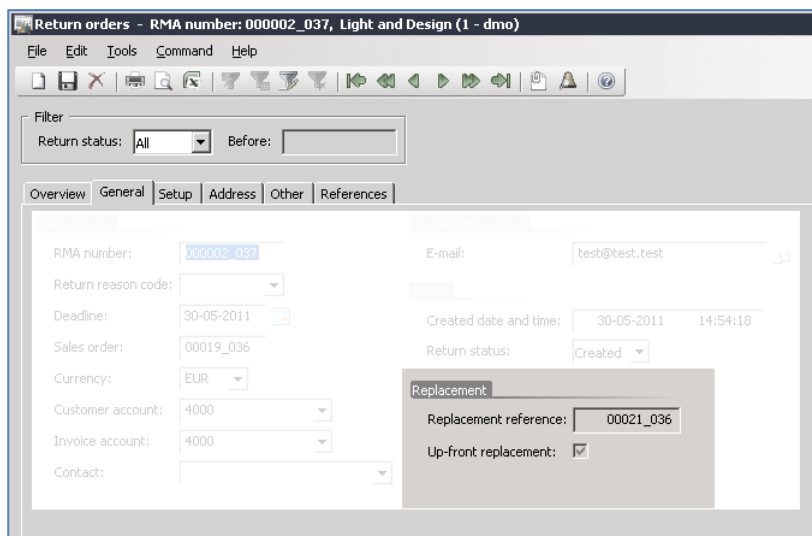


Figure 12 Replacement reference

If an up-front replacement order is created for a return order before the defective item was returned, it is not possible to select disposition codes for replacement after the defective item has been returned.

Working with return orders using Enterprise Portal

With Microsoft Dynamics AX 2009 you can create and track return orders using Enterprise Portal.

Enterprise Portal provides the following:

- Customer self-service portal, where an authenticated customer may access the system and create return orders against his own invoices.
- Return orders available to internal users, such as customer service representative.

In Enterprise Portal, you can only create and view return orders. Return orders cannot be processed or edited using Enterprise Portal.

Creating return orders

Return orders are always created from a customer invoice in Enterprise Portal. This corresponds to the **Find sales order** function in the Windows client.

The functionality is available from the **Invoices** list, as the action **Request to return**.

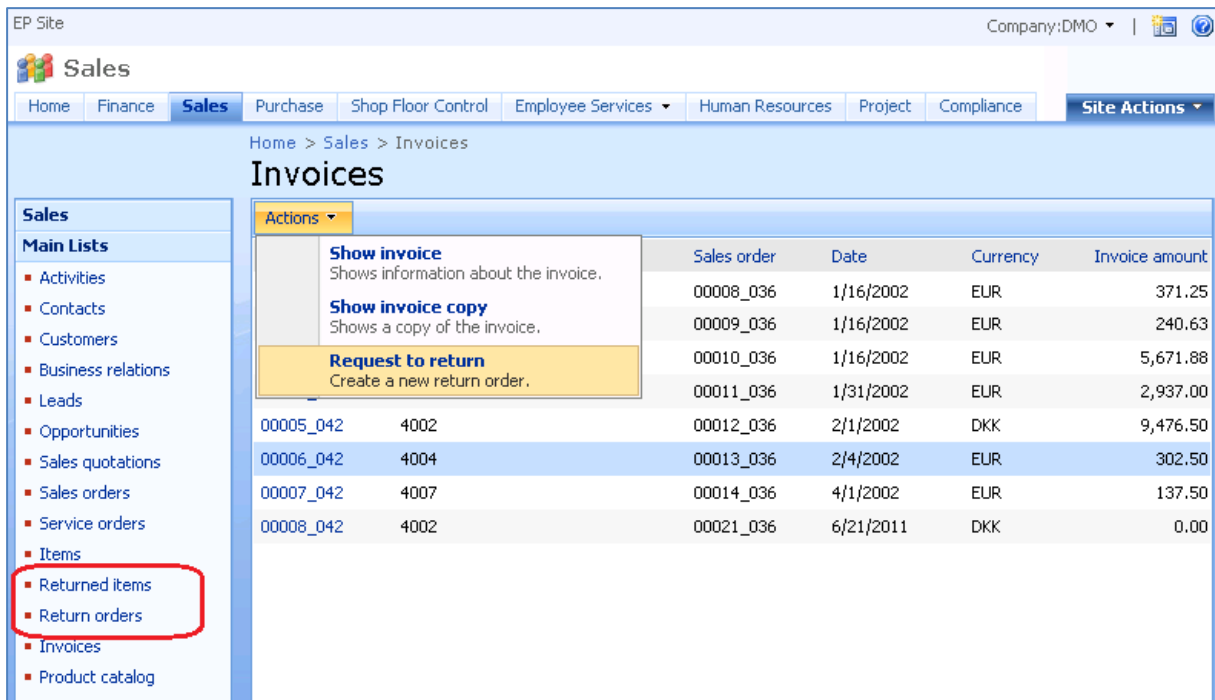


Figure 13 Invoice list, EPCustInvoiceJournalListCSS.aspx

When you select **Request to return**, a page displays key information from the customer invoice and corresponding lines. From this page you can select the lines and quantity to return, as well as select the return reason code for the return.

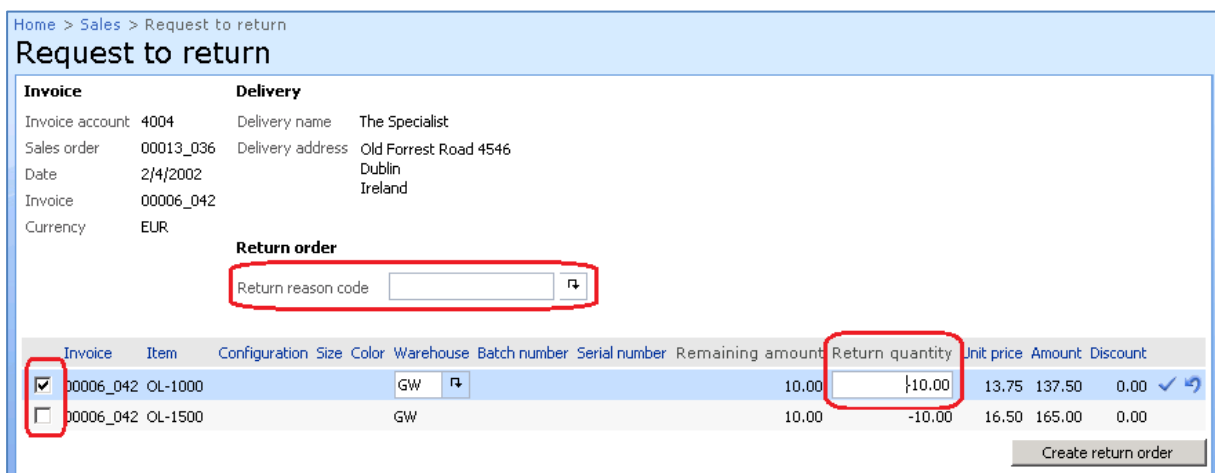


Figure 14 Create return order from a customer invoice

Remember to click the checkmark symbol to the right of the line after editing the return quantity.

When the return order has been created, it can be viewed from the **Return orders** or **Returned items** lists.

Home > Sales > Sales orders > Sales order: 00025_036, The Specialist

Order Information

Related Information ▾

Return order		Return status	Created
Return order	00025_036	Return reason code	
Name	The Specialist	Deadline	6/6/2011
Contact		Replacement reference	
Customer account	4004	Customer requisition	
Customer reference		Delivery	
Invoice account	4004	Delivery name	The Specialist
Currency	EUR	Delivery address	Old Forrest Road 4546 Dublin Ireland
RMA number	000006_037		

Items

Item number	Configuration	Size	Color	Warehouse	Quantity	Unit	Unit price	Discount	Disc. pct.	Net amount
OL-1000				GW	-10.00	Pcs	13.75	0.00	0.00	-137.50

Figure 15 Order details, Enterprise Portal

The order can no longer be edited in Enterprise Portal. Use the Windows client to process the order further.

The arrival process

The warehouse arrival process for returns integrates with the general process for warehouse arrivals, and supports the creation of quarantine orders for returned items that need to undergo separate inspection.

The following figure provides an overview of the arrival process. In the following sections, each step shown in this diagram is described in detail.

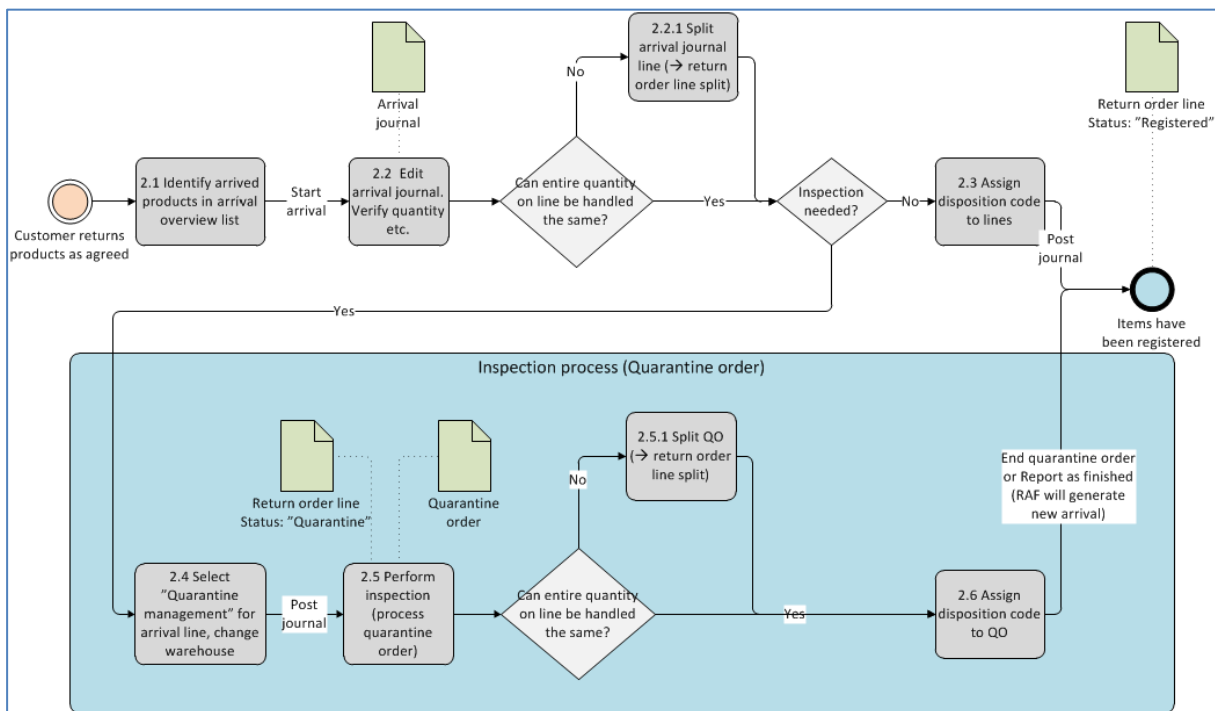


Figure 16 Warehouse arrival and inspection

A number of further variations are possible. They will not be described in this paper because they follow the standard patterns for those variations. These are:

- Arrival journal may be created manually rather than by using the **Arrival overview** form. Notice that return orders have **Sales order** as the reference.
- If the WMS module is used, pallet transports may be generated. The return line will receive the status of Arrived when in pallet transport.

Identifying the arrived products in Arrival overview

The **Arrival overview** form lists planned incoming arrivals. The Setup tab offers a wide range of filtering capabilities, such as by transaction type, date range, warehouse and so on.

You can save multiple filters as a group called a **Setup**. There is a selection of predefined filters, which includes a filter named **Return order** to display return transactions.

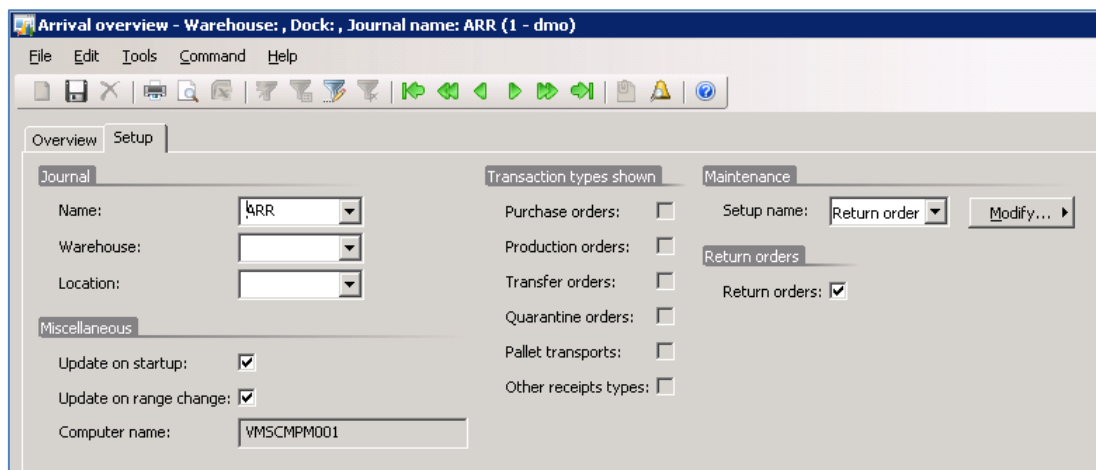


Figure 17 Arrival overview setup

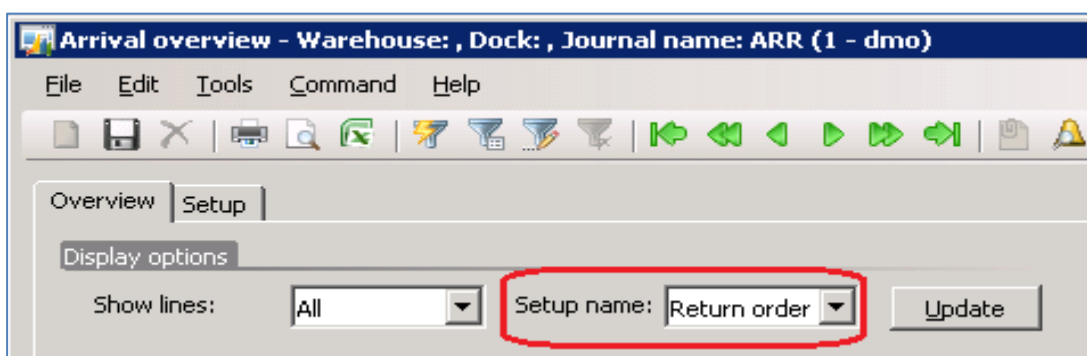


Figure 18 Select the Return order setup to list returns

Note: You must process arrivals from returns orders separately from other types of arrival transactions.

After you have identified an incoming package in the **Arrival overview** form, for example by using the accompanying RMA document, use the **Start arrival** function (click the **Start arrival** button on the **Arrival overview** form) to create and initialize an arrival journal to match the arrival.

Figure 19 shows the Infolog that opens.

Tip: Double-click the entry “**Journal of the type ...**” to open the journal.

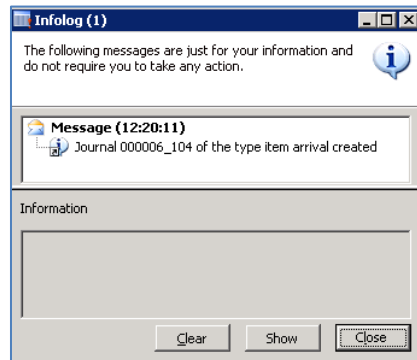


Figure 19 Infolog message

Editing the arrival journal

The arrival journal line contains three fields of special interest for return order lines.

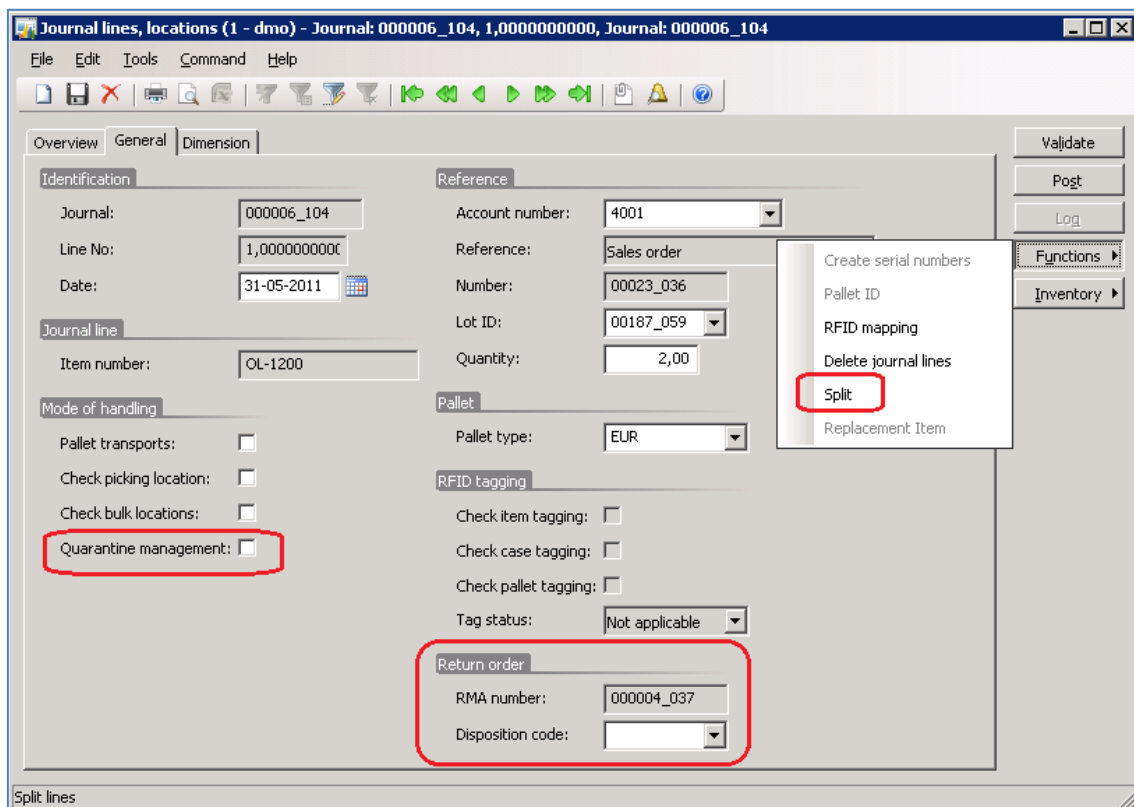


Figure 20 Arrival journal line

By selecting the **Quarantine management** check box you can create a quarantine order for the return line. If a line has been sent to quarantine for inspection, you cannot specify a disposition code.

Note: If you select the **Quarantine management** setting in the item's **Inventory model group**, the **Quarantine management** check box in the **Journal lines** form will be selected for the arrival journal line and cannot be cleared.

If the line is sent to quarantine, you must specify the appropriate quarantine warehouse on the **Dimension** tab.

If the arrival line is not sent to inspection, the warehouse arrival clerk must specify the disposition code directly on the arrival journal line and post the arrival journal. For more information, see [Disposition codes](#).

If the entire quantity of the return line should not receive the same disposition code, or if the full quantity of the line has not been received, you must split the line. Splitting the arrival journal line also splits the return line (**SalesLine**), and creates a new Lot ID.

The split can be established by reducing the quantity of the arrival journal line. The system creates a new return line with the status **Awaiting** for the remaining quantity when the journal is posted.

Alternatively, you may split the line by using **Functions > Split**.

Processing the quarantine order

If the returned products are sent for inspection at the quarantine warehouse, further processing is handled in a quarantine order. The following figure shows the **Return** field on the **Quarantine order** form, available from: **Inventory management > Periodic > Quality management > Quarantine order**.

Figure 21 Quarantine order for return lines

One quarantine order is created for each arrival line sent to quarantine.

The result of the inspection process is a decision on the disposition code. For more information, see [Disposition codes](#).

As is the case with the arrival journal, the quarantine order supports the splitting of the quarantine order. The navigation path is: **Functions > Split**.

Splitting the quarantine order also causes a corresponding split of the return line.

After the disposition code is entered, complete the quarantine order by using the **End** function or by using the **Report as finished** function. The **Report as finished** function creates a new arrival into the designated warehouse, which can then be processed by using the **Arrival overview** form.

If the arrival originates from a quarantine order, the disposition code assigned during inspection cannot be changed.

If the quarantine order is completed by using the **End** function, an immediate registration of the lot is performed.

Sending an acknowledgement report

It is possible to send an acknowledgement of receipt to the customer upon registration of the return line.

The acknowledgement report, an example of which is shown in Figure 22, resembles the return order document and can be generated from either of the following navigation paths:

- **Return orders (list) > Receive > Send acknowledgement**
- **Return order details > Functions > Send acknowledgement**

The Light Company, General warehouse Delivery address of GW warehouse. DK-2950 Vedbaek	Telephone Fax Giro Tax exempt number 12345678 Recipient																																
The Bulb Claudio Coello 91 28006 Madrid ES	Return acknowledgement RMA number 000004-037 Date 31-05-2011 Page 1 of 1 Customer reference Contact Customer requisition Customer account 4001																																
<u>We have received from you:</u>																																	
<table border="1"> <thead> <tr> <th>Item number</th> <th>Configuration</th> <th>Size</th> <th>Color</th> <th>Batch number</th> <th>Serial number</th> <th>Quantity returned</th> <th>Received on</th> </tr> </thead> <tbody> <tr> <td>OL-1200</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2,00</td> <td>31-05-2011</td> </tr> <tr> <td>OL-1500</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1,00</td> <td>31-05-2011</td> </tr> <tr> <td>OL-1500</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1,00</td> <td>31-05-2011</td> </tr> </tbody> </table>	Item number	Configuration	Size	Color	Batch number	Serial number	Quantity returned	Received on	OL-1200						2,00	31-05-2011	OL-1500						1,00	31-05-2011	OL-1500						1,00	31-05-2011	
Item number	Configuration	Size	Color	Batch number	Serial number	Quantity returned	Received on																										
OL-1200						2,00	31-05-2011																										
OL-1500						1,00	31-05-2011																										
OL-1500						1,00	31-05-2011																										

Figure 22 Return acknowledgement report

Generating the Return acknowledgement report is not journalized or otherwise registered in the system, and it does not constitute a mandatory step in the return order process.

Disposition codes and disposition actions

A key step in the return order process is the assigning of a disposition code to the return order line as part of arrival registration. The disposition code determines:

- The financial implications—whether the customer is being credited for the returned items and if any charges should be added to the return order line.
- The disposition of the returned item—whether the item can be added back to inventory, will be scrapped or whether it will be returned back to the customer.
- Whether a replacement item should be issued.

Note: Ensure that the right disposition code and quantity are entered when you register the arrival of the returned items. The registration cannot be undone. This means that you must then finalize the return order process with the incorrect data once the arrival journal has been posted.

Disposition codes are defined as part of the setup of the return order module. For more information, see [Disposition codes](#). However, each disposition code must reference one of the built-in Disposition actions.

Important: If an item should not be returned, but the customer should still be credited, the disposition code for "Credit only" should be assigned to the return line. For more information, see [Disposition codes and disposition actions](#).

The following table lists the built-in disposition actions.

Disposition action	Financial implications	Logistics implications
Credit only	Customer is credited the sales price, less any fees or charges. Loss from scrapping the item is posted to ledger.	Item is <i>not</i> supposed to be returned. This disposition action is used for cases where: <ul style="list-style-type: none"> • There is sufficient trust among the parties. • The cost of returning the defective item is prohibitive. • The items cannot be allowed back into inventory. Other conditions make a physical return unnecessary.
Credit	Customer is credited the sales price, less any fees or charges. Inventory value is increased by cost of returned item.	Item is returned and added back to inventory.
Replace and credit	Customer is credited the sales price, less any fees or charges. Inventory value is increased by the cost of the returned item. A separate sales order for a replacement is created, and will be handled separately.	Item is returned and added back to inventory.
Replace and scrap	Customer is credited the sales price, less any fees or charges. Loss from scrapping the item is posted to ledger. A separate sales order for a replacement is created, and will be handled separately.	Item is returned and scrapped.
Return to customer	None, except for any fees or charges.	Item is initially returned, but is then returned back to the customer after inspection. This could be the case if the item has been damaged deliberately, or warranty has been voided.
Scrap	Customer is credited the sales price, less any fees or charges. Loss from scrapping the item is posted to ledger.	Item is returned and scrapped.

Table 4 Disposition actions

Replacement item

If you ship a replacement to the customer, and on the return order, use the disposition code with the disposition action of **Replace and scrap** or of **Replace and credit**, then use the process that is illustrated in Figure 23.

Note: This is an alternative to the Up-front replacement process described earlier in the section [Up-front replacement](#).

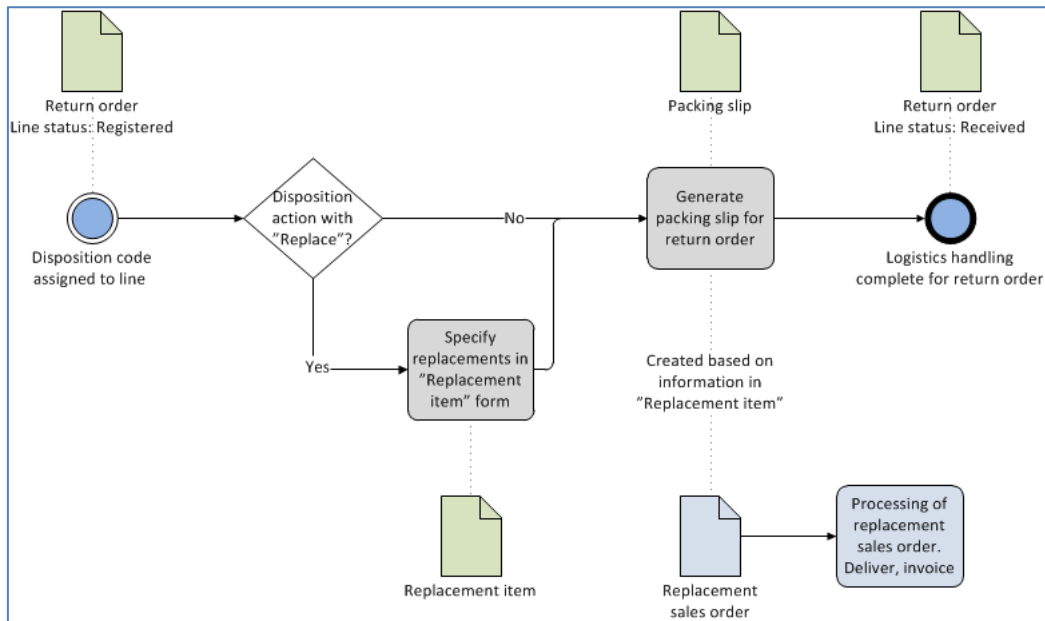


Figure 23 Process for specifying replacement item

The replacement item, or items, will be delivered by using an independent sales order, the **Replacement sales order**. This sales order is created during the generation of the packing slip for the return order. The order header will be initialized by using information from the customer referenced on the return order header.

The line information will be derived from information that is entered in the **Replacement item** form, shown below.

Item number	Sales quantity	Available physical
OL-1200		4,00

Configuration	Size	Color	Sales quantity	Available physi
This grid is empty.				

Qty to allocate: Qty allocated:

Apply Cancel Reset

Number of sales units. EUR dmo usr

Figure 24 Replacement item

There are several options for navigating to the **Replacement item** form:

- **Return order details (lines) > Functions > Replacement item**
- **Arrival journal (lines) > Functions > Replacement item**
- **Quarantine order > Functions > Replacement item**

To pass the packing slip process step, the **Replacement item** form must be filled out for lines with **Replace*** disposition actions.

However, there is no validation of, or limitation for, the quantity or identity of the replacement item specified. No validation is performed, to allow for cases in which the customer wants an identical replacement but a different configuration or size, or wants something completely different.

The **Replacement item** form suggests that an identical item should be supplied, but it also allows for the selection of an alternate item, providing that function has been set up.

Enter the desired quantity in the **Sales quantity** field and select **Apply** to save the information.

Note: It is possible to edit the **Replacement sales order** after its creation.

Packing slip

The logistical part of the return process is concluded with the generation of the packing slip.

The packing slip may be generated from several navigation paths:

- **Return order details > Functions > Packing slip**
- **Arrival journal > Functions > Packing slip returned**
- **Sales order details > Posting > Packing slip**
- **Sales orders (list) > Pick and pack > Process > Packing slip**

When you generate the packing slip, the following happens:

- A physical receipt is performed in the warehouse by using the standard process. Ledger postings are generated if the Inventory model group (Post physical inventory) and the accounts receivable parameters (Post packing slip in ledger) are set appropriately.
- Items that have been marked with a disposition code containing **Scrap** are scrapped, and the inventory loss is posted to the ledger. The scrapping and associated loss will happen in context of a quarantine order that is created during the packing slip processing.
- Items that have been marked with a disposition action **Return** are received and delivered to the customer. Items that are marked with the disposition action **Return to customer** should have no net effect on inventory.
- A replacement sales order based on information in the **Replacement item** form is created.

The packing slip may be generated only for lines with the return status **Registered**, and only for the full quantity on the return line. If several lines on the return order have the status **Registered**, the packing slip may be generated for a subset of the lines by deleting the others from the **Post packing slip** form.

In general, the packing slip process may be skipped, and you may go straight to invoicing. The steps performed during packing slip generation are then executed during invoicing.

Note: Generating the packing slip cannot be undone. Verify that the right lines and data are being processed before you generate the packing slip.

Invoice

While the **Return Order Details** form contains the information and actions necessary to handle the special logistical aspects of the return order, the invoicing process must be performed from the standard **Sales Order Details** form.

To navigate to the **Sales Order Details** form and have it show the return order, right click the sales order number in the **Return Order Details** form, and select **Go To Main Table** form.

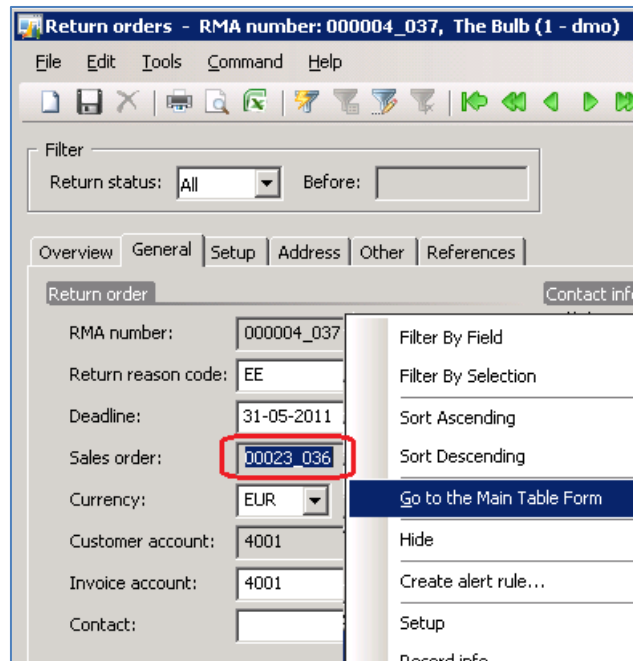


Figure 25 Displaying the return order in the sales order form

The return order can also be located in the **Sales Orders** list page. Return orders are sales orders of order type **Returned order**. You can also invoke the invoicing process directly from the **Sales Orders** list page as shown in Figure 26.

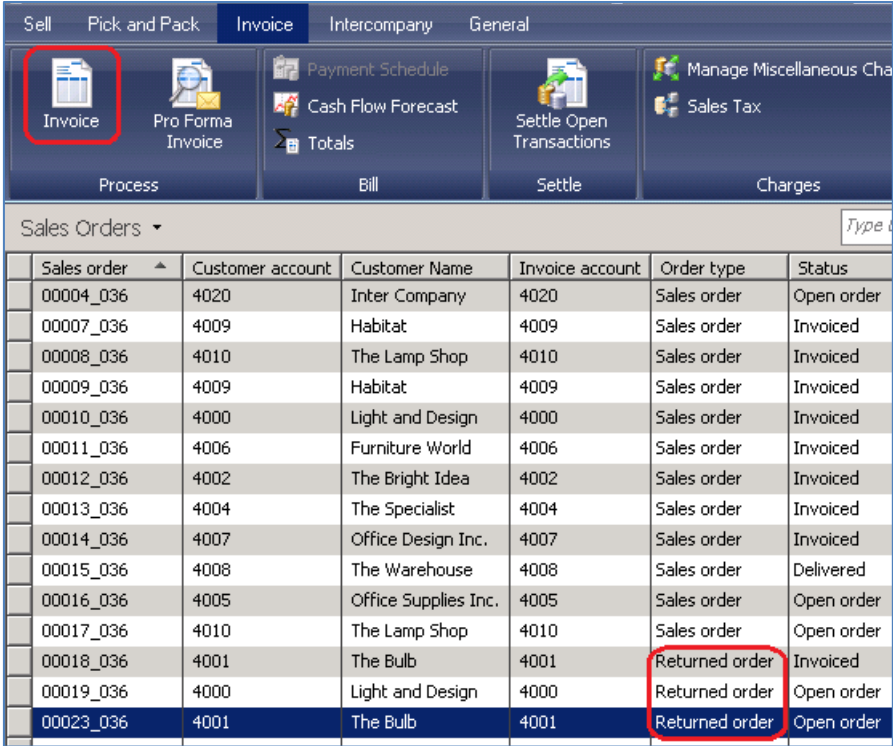


Figure 26 Sales orders list page lists returned orders

Credit correction

Note: As part of the invoice process, it is advisable that miscellaneous charges are inspected for correctness. Figure 27 shows that the return process both supports adding charges to order header and to lines.

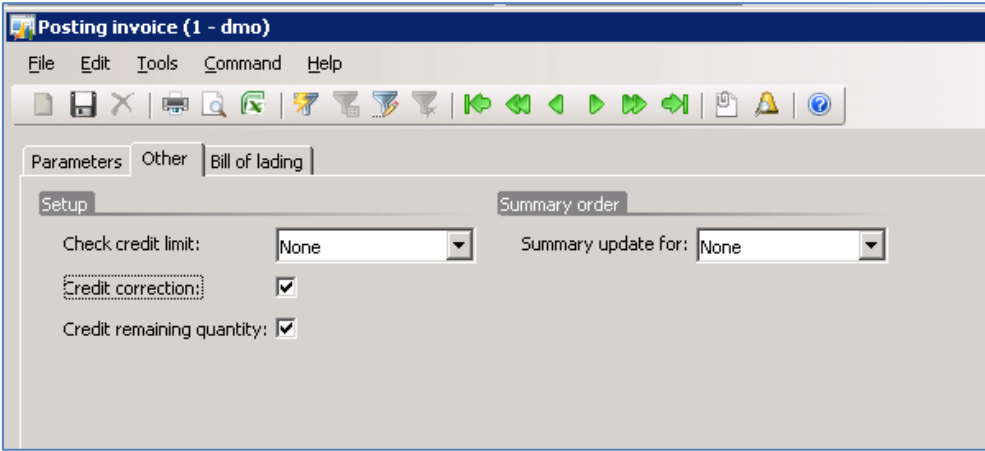


Figure 27 Credit correction check box during invoice posting

To cause the ledger postings to become corrections (Storno), consider using the **Credit correction** check box on the **Other** tab on the **Posting invoice** form when posting the invoice/credit note. For more details, see [Inventory cost and ledger postings](#).

However, the typical recommendation is to *not* post returns with Storno.

Return orders and intercompany

Return orders support intercompany trade.

Two main scenarios are supported:

- Simple intercompany returns between two companies that participate in an intercompany relation:
 - An intercompany chain established by creating a customer return order in a selling company
 - An intercompany chain established by creating a vendor return order in a buying company
- Direct delivery shipment returns between an external customer and two companies that participate in an intercompany relation.

Setup

To take advantage of intercompany trade, the minimum setup shown in Figure 28 must be established for two companies to participate in an intercompany relation:

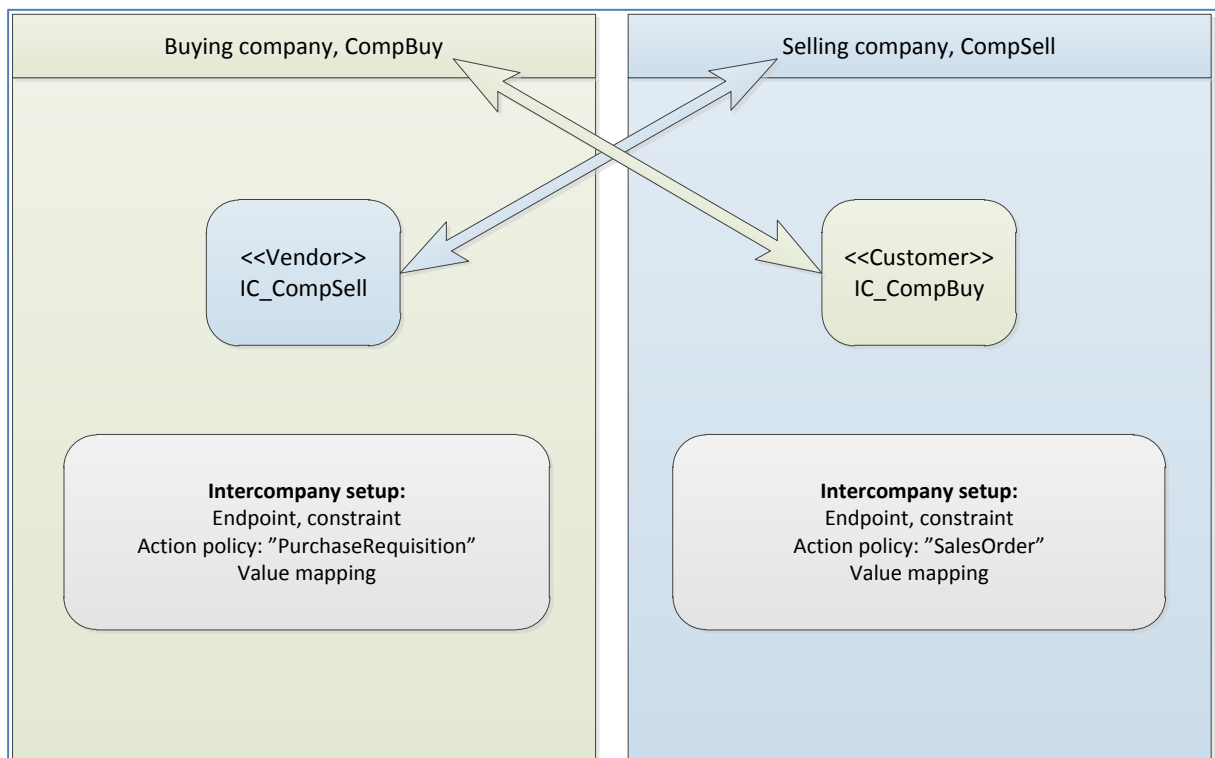


Figure 28 Required intercompany setup

In the following scenario, **CompBuy** refers to the buying company and **CompSell** refers to the selling company. Usually, the selling company will ship goods to the buying company, or—in direct delivery shipment scenarios—directly to the end customer.

In **CompBuy**, the vendor **IC_CompSell** is defined as an intercompany endpoint that is associated with company **CompSell**.

At the same time, the customer **IC_CompBuy** is defined as an intercompany endpoint in company **CompSell**, and is associated with company **CompBuy**.

The appropriate action policy details and value mappings must be defined in both companies.

Figure 29 shows the **Sales order numbering** setting on the **SalesOrder** action policy in **CompSell**.

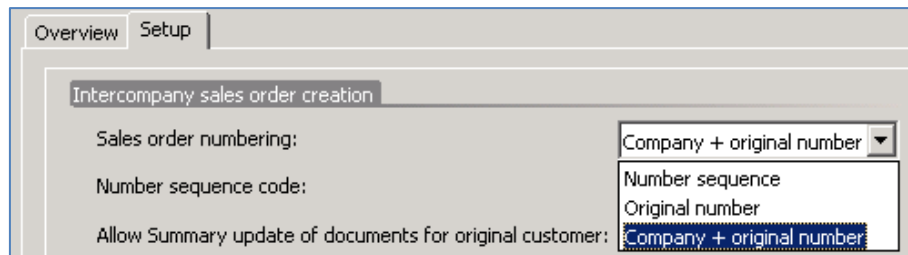


Figure 29 How to generate sales order and RMA numbers

As return orders are implemented as a special type of sales orders, every return order is also a sales order. Therefore, this setting also applies to the sales order number of the return orders.

In the direct delivery shipment scenario, an intercompany return order (intercompany sales order) is created in the selling company. For an illustration of this process, see Figure 32 Direct delivery shipment scenario.

The **RMA number** of the intercompany return order may be picked from the RMA number sequence in **CompSell** or it can be copied from the RMA number assigned to the original return order in **CompBuy**. The **RMA number** settings on the **PurchaseRequisition** action policy in **CompBuy** determine these actions. Figure 30 illustrates synchronizing of the RMA number from the original order to the intercompany order point. If the RMA number is being synchronized, you should plan to mitigate the risk of number clashes if the two companies use the same number sequence:

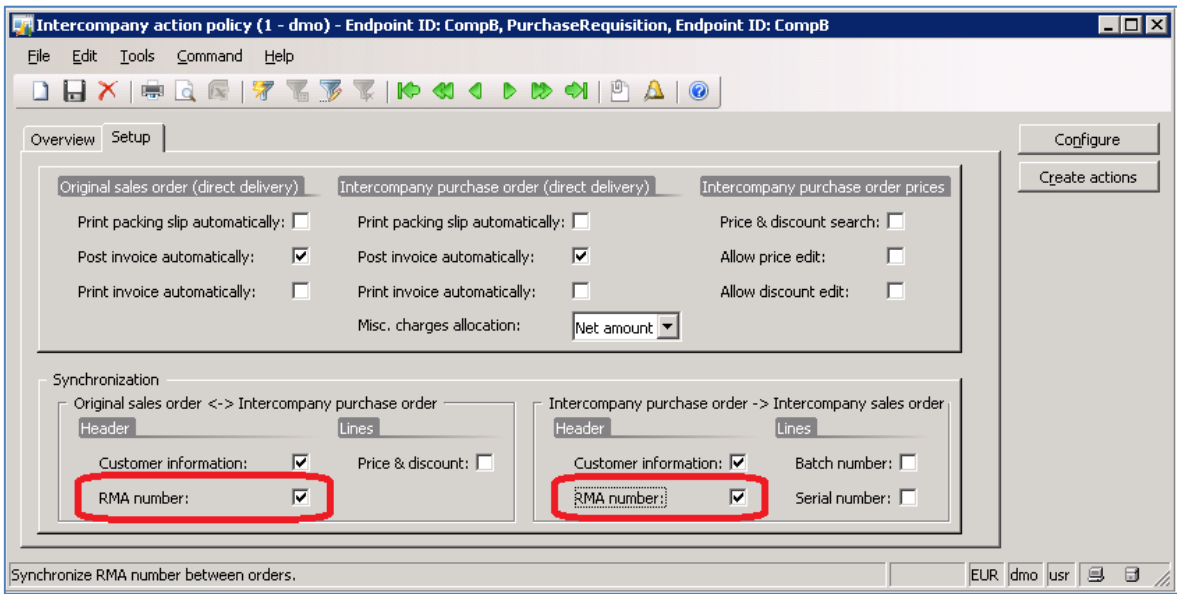


Figure 30 Synchronizing RMA from original to intercompany order

Simple intercompany returns

In the following scenario, there are two intercompany companies involved:

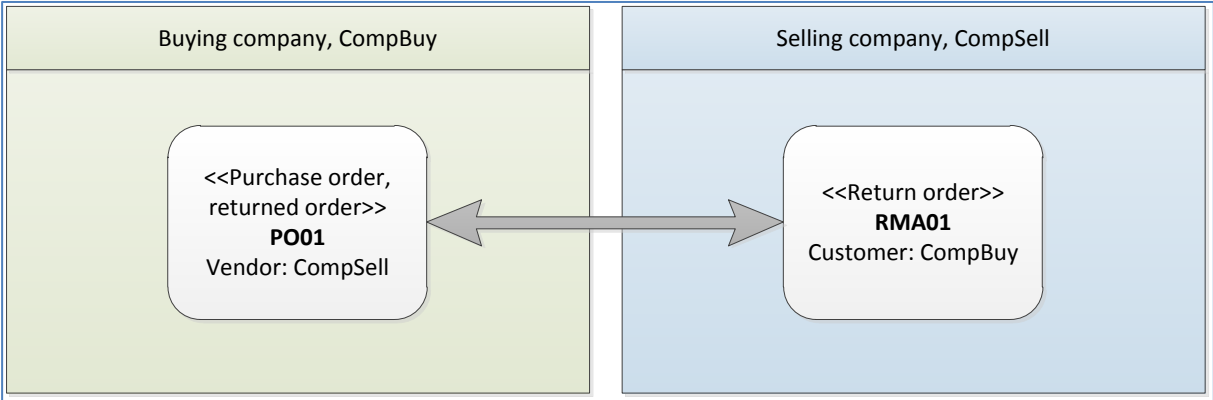


Figure 31 Simple scenario between two intercompany parties

The order chain may be established either by creating a vendor return order in the buying company or by creating a customer return order in the selling company. The system creates the corresponding order in the other company, and ensures that the header and line information (items, quantities, prices) on the vendor return order reflect the settings on the customer return order.

The return order may be established both with and without reference (**Find sales order**) to an existing customer invoice.

The packing slips and invoices of the two orders may be processed individually. For example, the system does not require a packing slip to be generated for the vendor return order prior to generating the packing slip for the customer return order.

Direct delivery shipment returns between three parties

This scenario may be established if a prior sale of the type **Direct delivery** has been completed, and an invoice against the customer exists in the company that interacts with the customer.

In Figure 32, the company **CompBuy** has previously sold and invoiced products to the customer **Extern**. The products were shipped directly from company **CompSell** to the customer using an intercompany order chain.

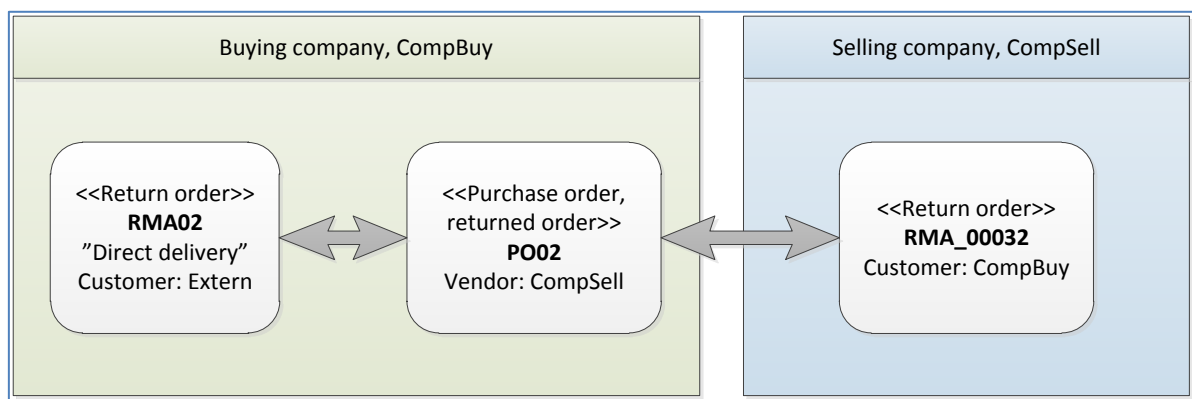


Figure 32 Direct delivery shipment scenario

If the customer wants to return the products, a return order **RMA02** for customer **Extern** is created in company **CompBuy**.

The return order must be marked for **Direct delivery** to establish the intercompany chain.

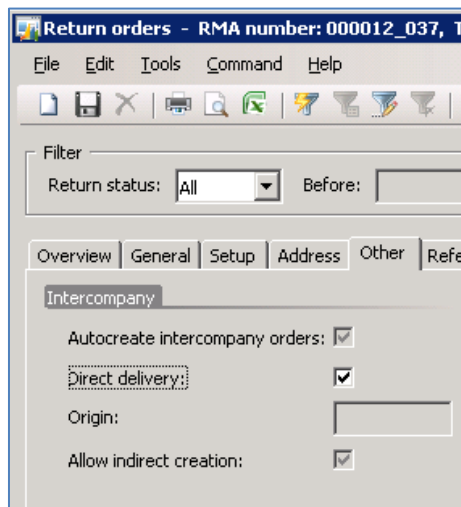


Figure 33 Tagging the return order for direct delivery

When the **Find sales order** function is used to pick the customer invoice to return, the system establishes an intercompany order chain consisting of the following: (**Note:** the numbers are from Figure 32 Direct delivery shipment scenario).

- Original return order: **RMA02** (company **CompBuy**).
- Purchase order: **PO02** (company **CompBuy**).
- Intercompany return order: **RMA_00032** (company **CompSell**).

When the direct delivery intercompany chain has been created, all physical handling and processing of the returns must happen in context of the intercompany return order, RMA_00032 in the company **CompSell**. It is not possible to receive the products in the company **CompBuy**.

When a disposition code is assigned to the intercompany return order, it is synchronized to the original return order to allow for proper invoicing of the original order.

Reports

The return order module comes with three statistical reports that allow for following up on products, customers, and the return order process.

Note: Because the reports are based on the **Customer invoice** journal, they only take into consideration invoiced return orders.

The navigation path to the reports is **Accounts receivable > Reports > Return orders**

Return volume

The Return volume report summarizes the number of invoiced return order lines by disposition code or by return reason code, and roll up by time period. The time period may be Months, Quarters, or Year.

Return volume (1)

General | Batch

View

Report view: Disposition code

Date intervals

Period code: Month

From date: 01-05-2011

To date: 30-06-2011

Figure 34 Return volume report, request form

Figure 35 is an example of a Return volume report:

The Light Company				
Return volume				
Period: 01-05-2011 30-06-2011		Period code: Month		
Disposition codes	Description	May 2011	Jun 2011	Total
Credit	Credit	2	0	2
Reject	Item rejected	4	0	4
Scrap	Scrap/Destroy	2	0	2
Total		8	0	8

Figure 35 Return volume report

Return statistics ranking (Top X report)

This report is a "TOP X" report for returns. It lists the most used items, customers, disposition codes, and reason codes, and rank them.

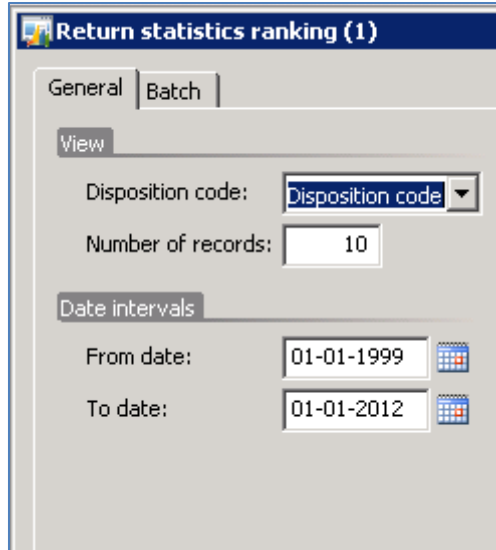


Figure 36 Return statistics ranking report, request form

Figure 37 is an example of how the final Return statistics ranking report may look.

The Light Company			
Return statistics ranking			
Period: 01-01-1999 01-01-2012			
Rank	Disposition code	Disposition description	Returns
1	Reject	Item rejected	4,00
2	Credit	Credit	2,00
3	Scrap	Scrap/Destroy	2,00

Figure 37 Return statistics ranking report

Return cycle time

This report is used to track and analyze the processing time of return cases. It can analyze the Internal, External, or Full process.

Figure 38 Return cycle time report, request form

The definitions of the cycle time options are shown in the following table.

Cycle time	Start event	End event
Full cycle	Creation of return order	Invoice date (system date)
Internal cycle	Arrival registration	Invoice date (system date)
External cycle	Creation of return order	Arrival registration

Table 5 Cycle time definitions

Figure 39 is an example of the Return cycle time report.

The Light Company				
Return cycle time				
Cycle: Full cycle		Period: 01-01-1999 01-01-2012		
Reason codes	Description	Min. Cycle time	Avg. Cycle time	Max. Cycle time
EE	Entry Error - System processing error	1 day	1.0 day	1 day
FORM	Unacceptable format	1 day	1.0 day	1 day

Figure 39 Return cycle time report

Configuring .return order settings

This section describes the settings and parameters that are significant for controlling and managing the return order module.

License and configuration

The Return order module is controlled by the configuration key **Return orders** (ReturnItem). The prerequisite for the Return orders key is the **Trade** (LogisticsBasic) configuration key.

These are both protected by the **Trade** (LogisticsBasic) license code, which is part of the **Business Essentials** license package.

General settings

Period of validity

The navigation path is: **Account receivable > Setup > Parameters > General > Return orders (RMA)**

The period of validity is the number of days that are granted to the customer to return the items. It is used to initialize the **Return deadline** field on the return order header.

Require reasons for return order

The navigation path is: **Account receivable > Setup > Parameters > General > Reason code requirements**

If selected, a reason code must be entered on the header to save the return order.

Setup quarantine warehouse

The Scrapping function executed during the generation of the packing slip creates a quarantine order. The Scrapping function performs the actual scrapping in context of the quarantine order.

To be successful, it is necessary that a quarantine warehouse is set up and associated with the warehouse that the returned items are received into.

Figure 40 illustrates an error that appears on the **Posting** tree if no quarantine warehouse has been specified for the main warehouse:

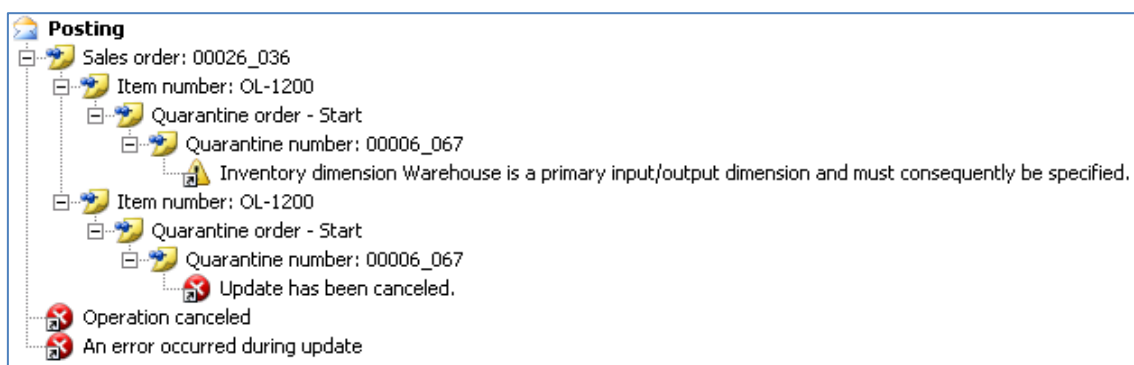


Figure 40 Error when no quarantine warehouse has been specified for the main warehouse

The quarantine warehouse must be created in the **Warehouses** form as the type Quarantine and it must be associated with the normal warehouse.

The navigation path is: **Inventory management > Setup > Inventory breakdown > Warehouses**

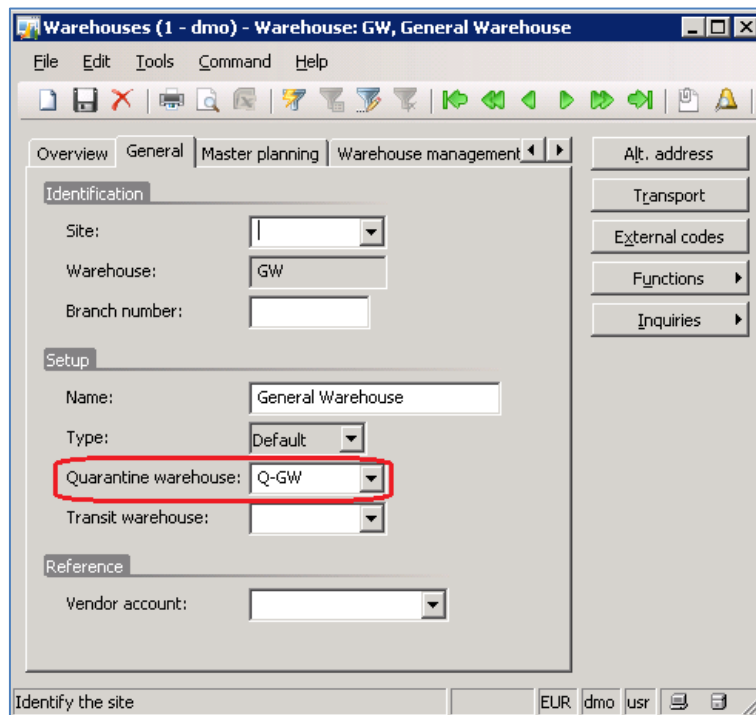


Figure 41 Associate quarantine warehouse with receipt warehouse

Number sequence

If the assignment of RMA numbers is required, a number sequence code must be associated with the **RMA number**. The RMA number and number sequence code is found on the Accounts receivable parameters form.

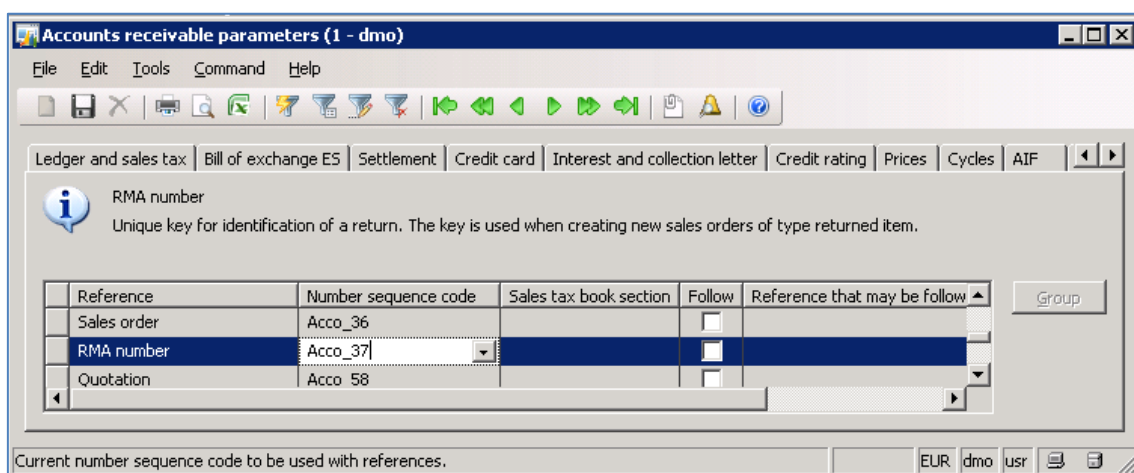


Figure 42 Set up number sequence for automatic assignment of RMA number

Other number sequences for the arrival journal, the quarantine order and so on must be set up in their respective modules.

Return action default

If customer return orders should be used in intercompany scenarios, the system creates vendor return orders (purchase orders of type **Returned order**). When a packing slip is generated for vendor return orders, it is mandatory to specify a **Return action** on the vendor return order.

To avoid entering the Return action manually, it is advisable to specify a **Return action default** value in **Account payable parameters**. If a value isn't entered manually, the system enters the default value.

The navigation path is: **Account payable > Setup > Parameters > General > Default values**

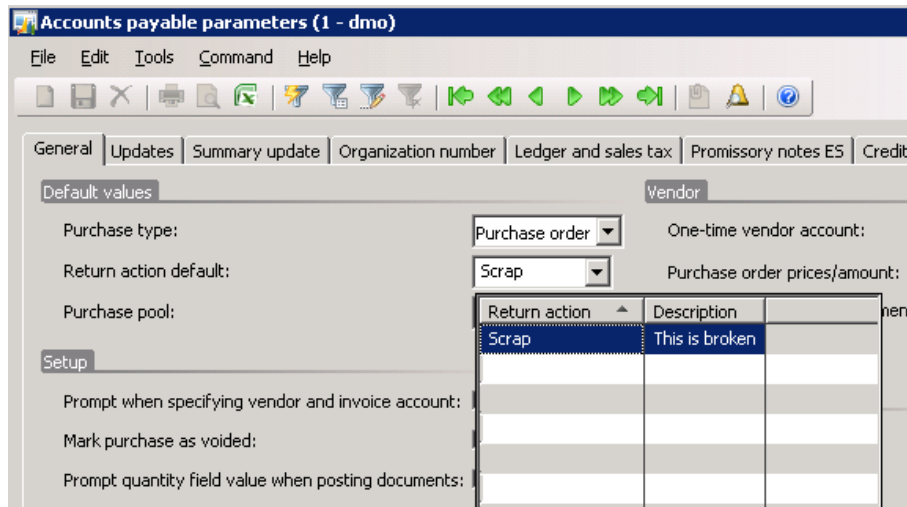


Figure 43 Return action default for vendor return orders

Disposition codes

As described in the section [Disposition codes and disposition actions](#), disposition codes and the associated **Disposition actions** are the core concepts of the Return order module.

You may set up any number of disposition codes even if the set of disposition actions is limited. This is useful for generating valuable statistics or to apply a different set of charges. For more information, see [Reports](#).

The navigation path is: **Account receivable > Setup > Sales order > Returns > Disposition codes**

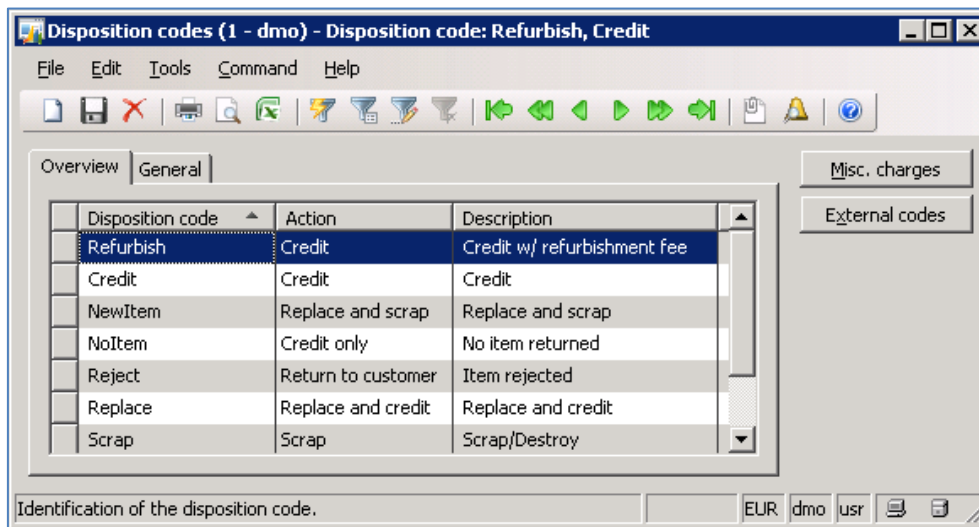


Figure 44 Disposition codes

Note: The Refurbish disposition code uses the same action as the Credit disposition code, but it has been set up with a 30 % fee. For more information, see Figure 45 Misc. charges for disposition code.

Misc. charges

Miscellaneous charges that are entered for a disposition code are added to return lines when the disposition code is assigned to the line.

Note: Charges defined as a percentage of the line value should be entered as a negative number to result in a debit to the customer.

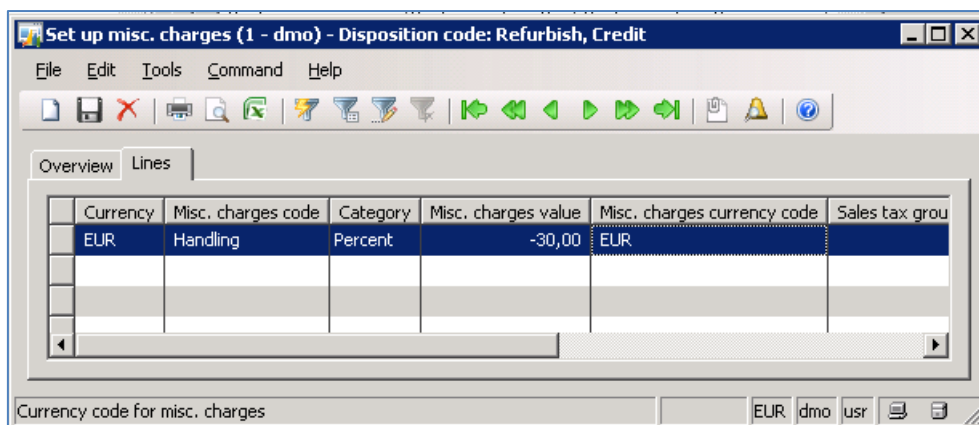


Figure 45 Misc. charges for disposition code

Charges that have been added by the system to the return line can be edited from the **Return Order Details** form.

External codes are used to set up code values for intercompany mapping of disposition codes.

Return reason codes

Use return reason codes to group return orders for statistical purposes and to implement a return policy. This is achieved by adding different charges for each return reason code.

Return reason codes are grouped into **Return reason code groups** and are set up from either of the following navigation paths:

- **Accounts receivable > Setup > Sales orders > Returns > Reason code groups**
- **Accounts receivable > Setup > Sales orders > Returns > Reason code**

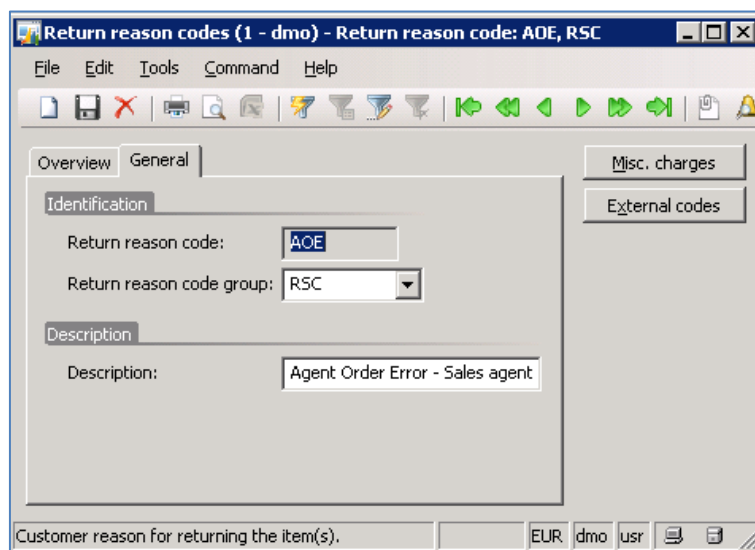


Figure 46 Return reason codes

Group reason codes to find the right code quickly on the **Reason code lookup** form. Open the **Return reason code groups** tab. If you click one of the reason code groups on the **Return reason code group** tab, the **Return reason codes** tab opens and displays the reason codes for the selected group only.

To see a full list of reason codes, click the tab **All return reason codes** and select the reason code from the full list.

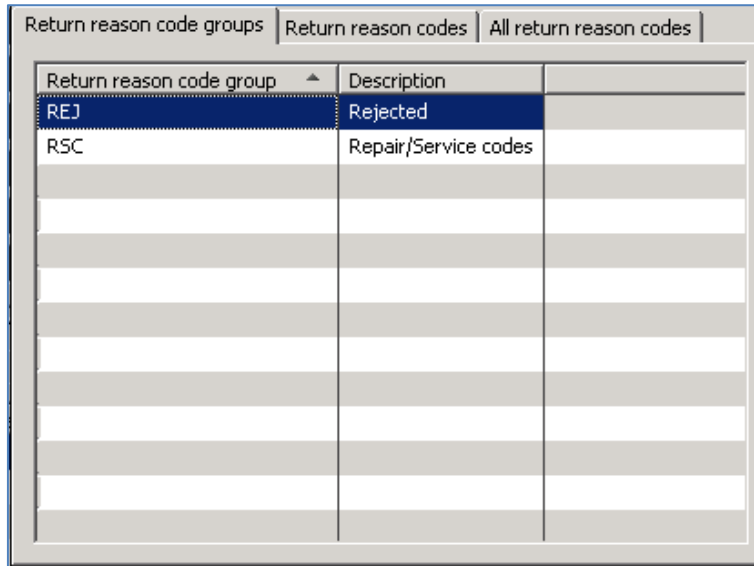


Figure 47 Return reason codes lookup form, tabbed design

Misc. charges

Misc. charges that are entered for a reason code are added to return order headers when a reason code is assigned to the header.

Note: Charges defined as a percentage of the order value should be entered as a negative number to result in a debit to the customer.

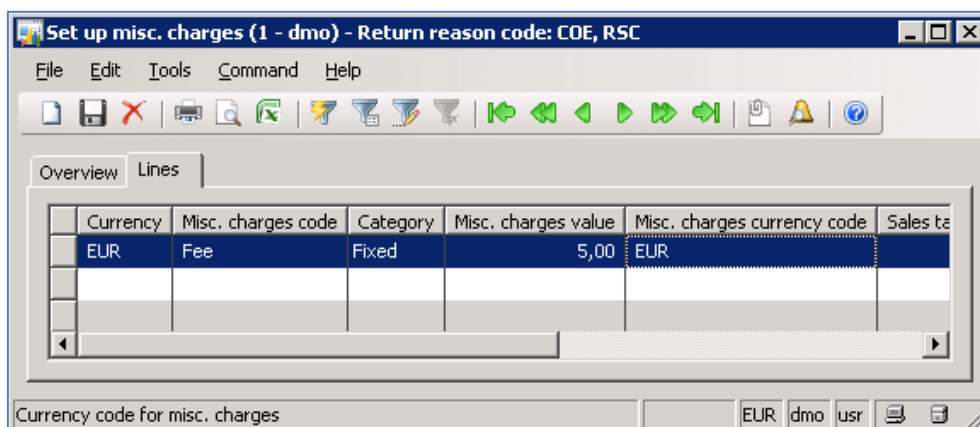


Figure 48 Misc. charges for return reason codes

Charges that have been added automatically to the return order can be edited from the **Return order details** form.

External codes are used to set up code values for intercompany mapping of reason codes.

Inventory cost and ledger postings

The ledger postings generated when the return order is invoiced are influenced by a few important settings and parameters:

- **Return cost price**, as specified on the return order line. For more information, see [Create return order lines](#). For inventory models other than Standard cost, the Return cost price determines the cost of the item when it is accepted back into inventory – or the loss incurred, if the item is scrapped. To get a correct valuation of inventory, it is important to set the Return cost price correctly.
If the return order line is created using the Find sales order (that is, with reference to a customer invoice), the Return cost price is equal to the cost price of the sold item. If not, the cost price value comes from the item setup or can be entered manually.
- **Credit correction** (Storno). Credit correction is a parameter on the **Posting invoice** form that determines whether postings should be recorded as positive (**DR/CR**) entries or as correcting, negative entries.

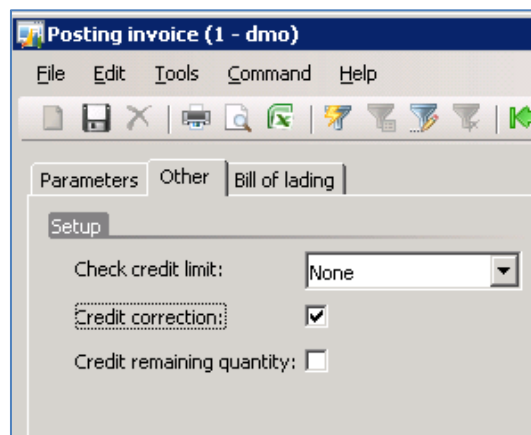


Figure 49 Credit correction parameter

In the examples that follow, the return cost price is represented as **Inv. Cost price**.

Example 1: Return order that does not reference a customer invoice

The return order does not reference a customer invoice. The returned item is credited. The **Return order invoice** (Credit note) is not generated with the credit correction selected.

Case 1	Qty	Unit price	Inv. Cost price	Line discount	Revenue		Discount		Consumption		Accounts receivable		Inventory issue	
					DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
Sales order invoice	3	10	5	6%		30	1,8		15		28,2			15
Return order invoice	3	10	4	0%	30				12			30		12

Figure 50 Return order that does not reference a customer invoice

Note: The item master price is used as the default for the Return cost price. The default price differs from the cost price at the time of inventory issue. This implies that a loss of 3 has been incurred.

Further, the discount extended to the customer on the sales order has not been included on the return order, thereby causing an excessive credit.

Example 2: Return order with credit correction selected

Example 2 is the same as Example 1, except that the return order invoice is generated with the credit correction selected:

Case 2	Qty	Unit price	Inv. Cost price	Line discount	Revenue		Discount		Consumption		Accounts receivable		Inventory issue	
					DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
Sales order invoice	3	10	5	6%		30	1,8		15		28,2			15
Return order invoice	3	10	4	0%		-30			-12		-30			-12

Figure 51 Return order with credit correction selected

Note: The ledger postings are entered as negative corrections.

Example 3: Return order line created by using Find sales order

In this example, the return order line is created by using the **Find sales order** function. The invoice is not created with the credit correction parameter selected:

Case 3	Qty	Unit price	Inv. Cost price	Line discount	Revenue		Discount		Consumption		Accounts receivable		Inventory issue	
					DR	CR	DR	CR	DR	CR	DR	CR	DR	CR
Sales order invoice	3	10	5	6%		30	1,8		15		28,2			15
Return order invoice	3	10	5	6%	30			1,8	15			28,2		15

Figure 52 Return order created by using the Find sales order function

Note: Discount and Return cost price are set correctly. This results in an exact reversal of the customer invoice.

Underlying code and processes

The following section describes code and processes that support customer returns. It includes content about the state model (how statuses are stored), inventory transactions and diagrams that describe the sequence of processing in typical customer return scenarios.

State model

This section describes the status fields and values for return orders.

Return order header

The return order header (SalesTable) maintains a special status field (SalesTable.ReturnStatus, datatype: Enum ReturnStatusHeader) with the following values:

Return status	Enum value	Corresponding sales status	Description
None	0		Not used.
Created	1	Open order	Return order created. No lines have yet been registered.
Open	2	Open order Delivered	At least one line has the status > Awaiting and at least one line has the status < Invoiced. No more lines can be added to the return order.
Closed	3	Invoiced	All lines have reached the status Invoiced.
Canceled	4	Canceled	The entire order has been canceled. The order cannot be processed any further.

Table 6 Status values for the return order header

Return order line

The return order line (SalesLine) maintains a special status field (SalesLine).

Return status	Enum value	Corresponding sales status	Description
None	0		
Awaiting	1	Open order	The line has been created, but has not yet been received in the warehouse arrival.
Registered	2	Open order	The line has passed the item arrival.
Quarantine	3	Open order	Returned items have been sent to inspection in context of a quarantine order.
Received	4	Delivered	A packing slip has been generated and included the line.
Invoiced	5	Invoiced	An invoice (Credit note) has been generated and included the line.
Canceled	6	Canceled	Line has been canceled. Lines cannot be individually canceled – the whole order must be canceled.

Table 7 Status values for the return order line

Inventory transactions

This section provides details descriptions of inventory transactions, and pointers to the code that supports them.

Inventory transactions and the Allow reservation flag

When a normal sales or purchase order line is created, a corresponding inventory transaction record is created to reflect the associated (future) inventory issue or inventory receipt.

This allows the planning engine (MRP) to consider these future issues and receipts when calculating plans. Also, it is reflected in the on-hand calculation and the associated ability to place reservations against future receipts.

In the case of return orders, inventory transactions are usually *not* created when the return order line is created. That prevents the reservation engine from making reservations against these expected receipts. The rationale for this behavior is that the condition of a returned item is uncertain; therefore, it shouldn't be subject to reservation before it has passed inspection and the condition has been verified as acceptable.

For technical reasons, inventory transactions are created for return order lines when the WMS arrival journal is created. From that moment until the arrival journal is posted, the returned products appear in on-hand calculations and are available for reservations.

After the arrival journal has been posted, the returned items either have a known condition—a disposition code has been assigned—or the returned items have been sent to inspection, and is registered in a quarantine warehouse until the condition of the items have been established.

If the returned items are known to be in perfect condition, it is desirable to make the upcoming receipt of the returned items known to the reservation and planning modules. An example of this is a distributor that has the right to return unsold items. Those items are new and the system should make it possible to quickly distribute them to another distributor.

The return order module supports this scenario through the use of the **Allow reservation** check box on the return line. If the Allow reservation check box is selected for a return line, an inventory transaction (**InventTrans**) record corresponding to the return line is created, and the returned items are immediately available for reservation.

The code controlling this behavior is located in:

```
\Data Dictionary\Tables\SalesLine\Methods\changeReturnOrderType.
```

Inventory transactions, reject and scrap lines

When a disposition code that has a disposition action implying scrapping or rejection of the returned item is applied in the arrival process, the item is either known to be defective (scrap) or it must be returned to the customer (reject). This means that reserving or the reselling of the item should be prevented.

To ensure that this doesn't happen, a copy of the original return line (SalesLine) table record with a reversed sign on the **SalesQty** field is created for the same return order, and reserved or marked against the original return order line.

In both scenarios (scrap and rejection) the creation of the copy of the line is the same but their roles in the later processing of the return order differs.

In the scrap scenario, the copy of the line (the **scrap line**) never becomes visible to the user, and during the packing slip update it is deleted again as part of scrapping process. It only serves as a sort of temporary lock on the returned item.

However, in the rejection scenario, the copy of the line (the **reject line**) is visible on the return order, and it is used to remove the returned item from the inventory by sending it back to the customer. The copy of the line is included in the generation of the packing slip and invoice, and it balances out the returned item.

The line copying happens in:

```
\Data Dictionary\Tables\SalesLine\Methods\createReturnReservationLine
```

Sequence diagrams

The following section contains diagrams that describe the sequence of processing in typical customer return scenarios.

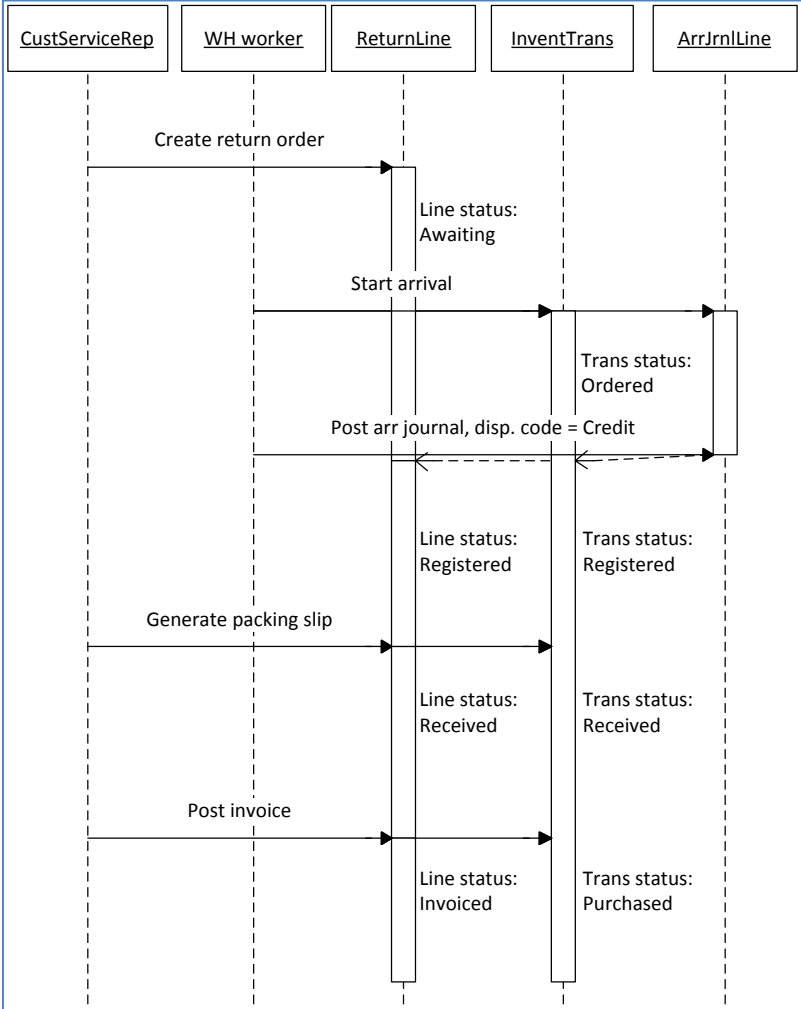


Figure 53 Full return process, Disposition action "Credit"

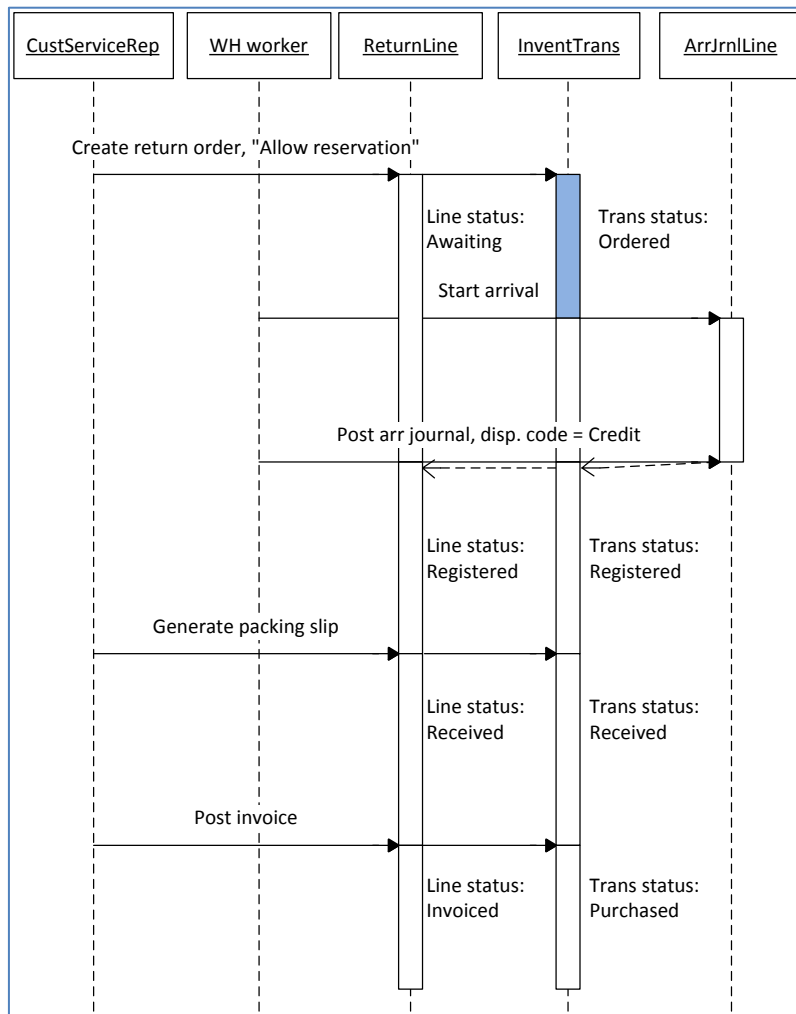


Figure 54 Use of "Allow reservation"

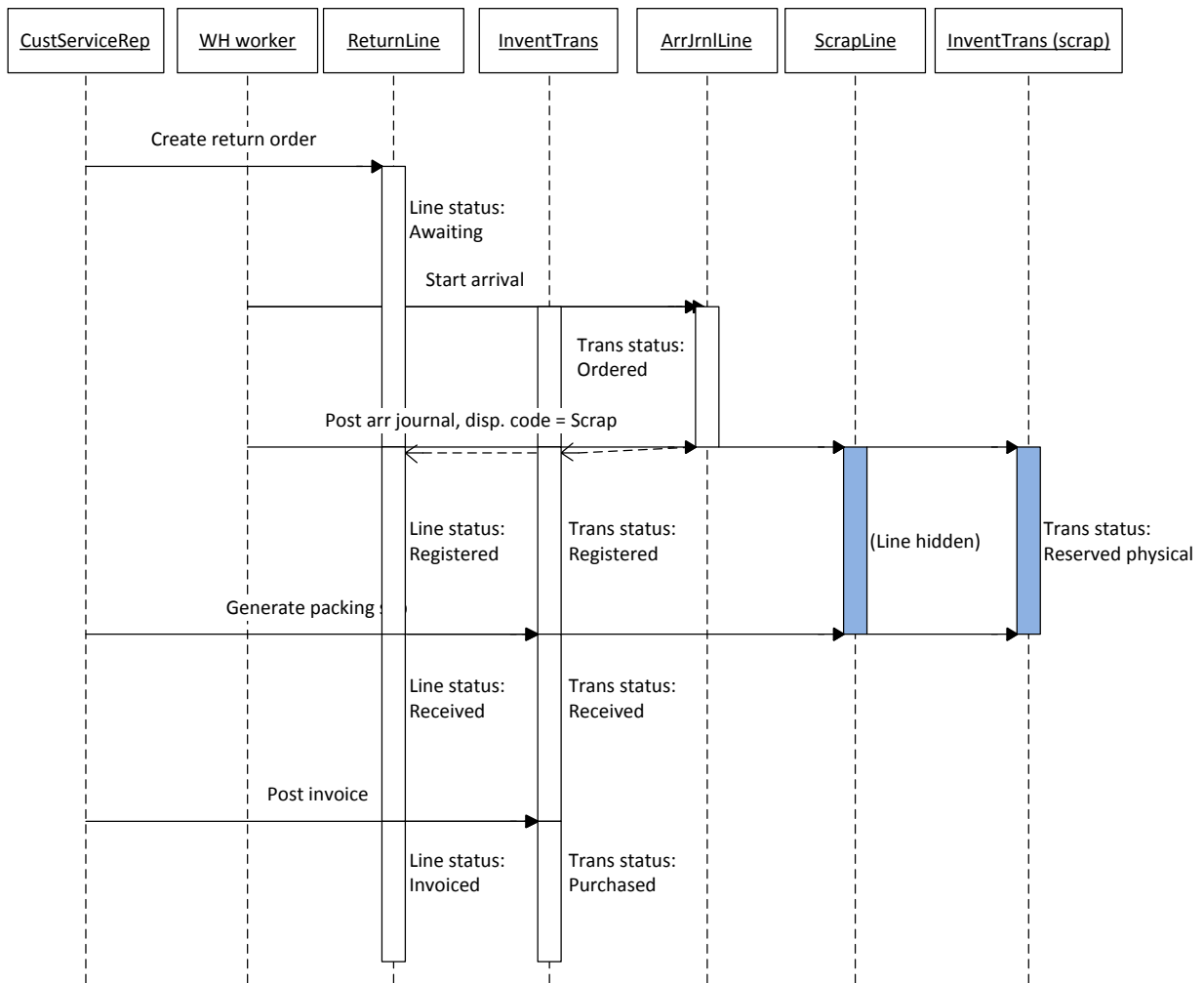


Figure 55 Disposition action "Scrap". Notice separate InventTrans

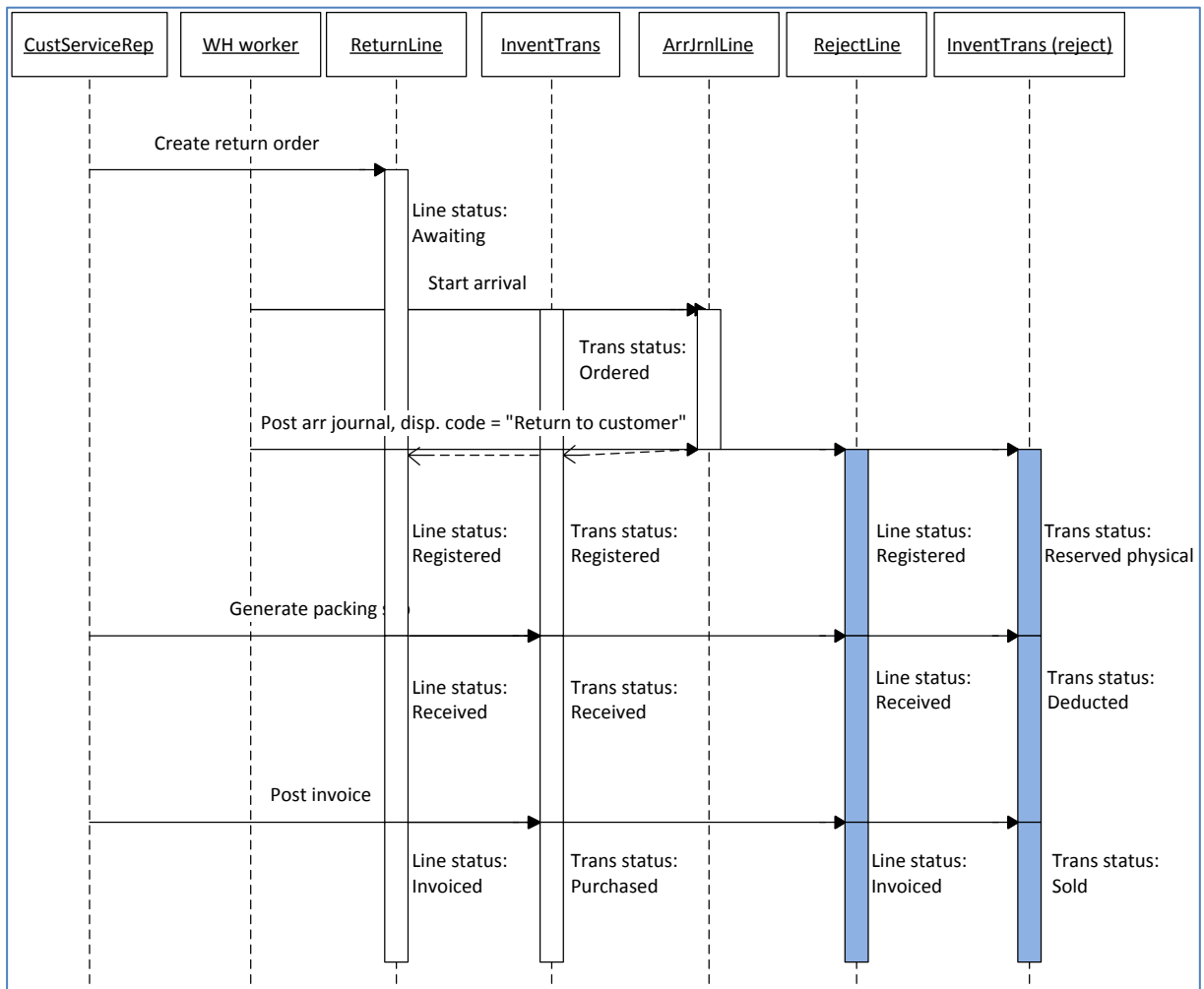


Figure 56 Disposition action "Return to customer"

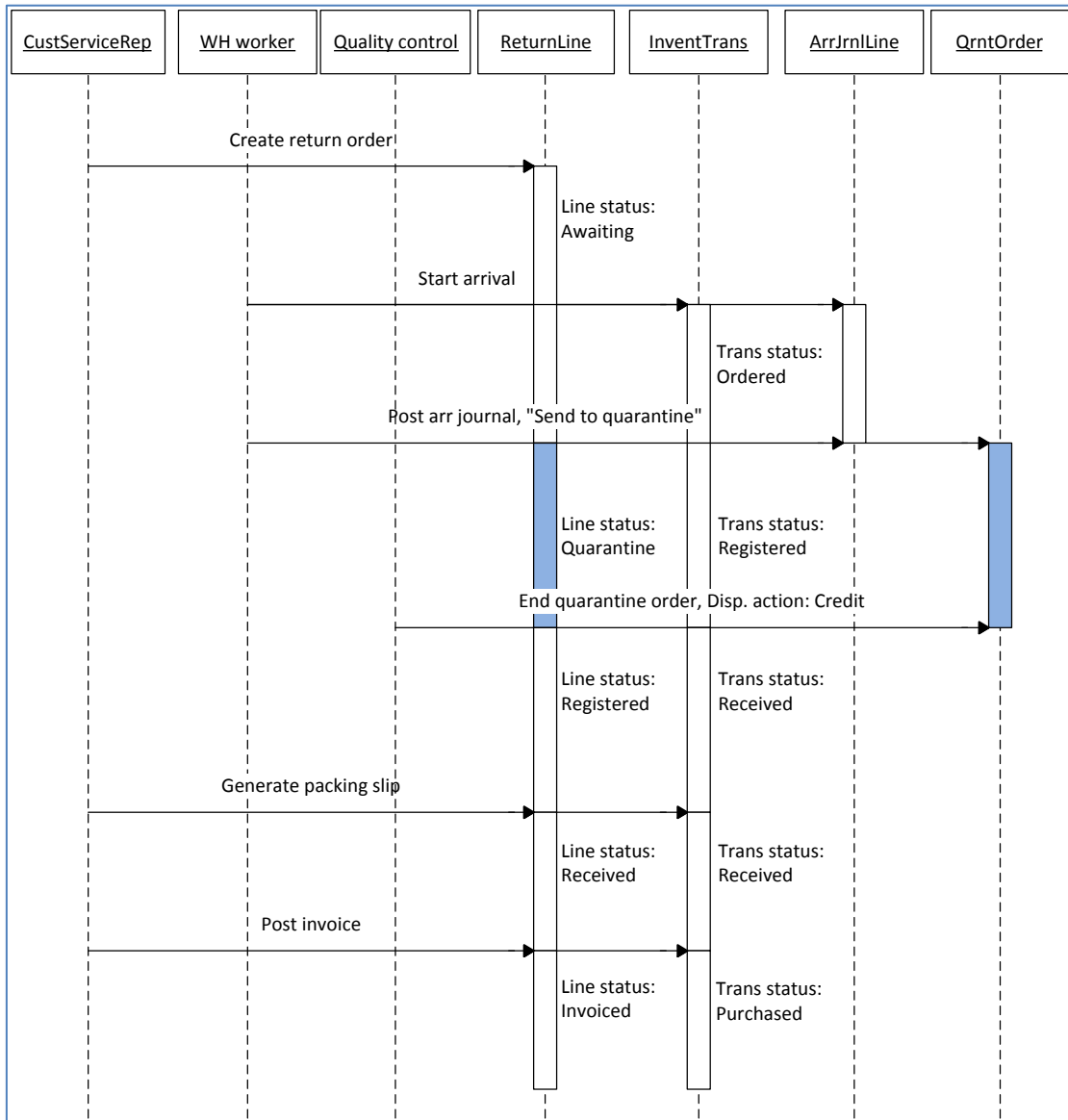


Figure 57 Quarantine order

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