



QAD Enterprise Applications  
Enterprise Edition

# Training Guide **WIP Lot Trace**

70-3234-2013.1EE  
QAD 2013.1 Enterprise Edition  
Workspace: 10USA > 10USACO  
September 2013

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# Change Summary

The following table summarizes significant differences between this document and the last published version.

<b>Date/Version</b>	<b>Description</b>	<b>Reference</b>
September 2013/v2013.1 EE	Rebranded for QAD 2013.1 EE	--
May 2013v/2013 EE	Edited for style and clarity	--
March 2013/v2013 EE	Rebranded for QAD 2013 EE	--
September 2012/v2012.1 EE	Rebranded for QAD 2012.1 EE; Consistency edit	--
March 2012/v2012 EE	Rebranded for QAD 2012 EE	--
September2011/v2011.1 EE	Rebranded for QAD 2011.1 EE	--



# **About This Course**

## Course Description

QAD designed this course to cover the basics of preparing to implement the WIP Lot Trace (WLT) module of QAD Enterprise Applications. The course includes:

- An introduction to the WLT module
- An overview of key business considerations
- Setting up the WLT module
- Operating the WLT module
- Activities and exercises throughout the course let students practice key concepts and processes in the WLT module

## Course Objectives

By the end of this class, students will:

- Know how to analyze key business decisions before setting up the WLT module
- Know how to set up and operate the WLT module

## Audience

- Implementation consultants
- Members of implementation teams
- Key users

## Prerequisites

- Basic knowledge of how QAD Enterprise Applications is used in the business
- Working knowledge of the manufacturing industry in general

## Course Credit and Scheduling

This course is typically taught in one day.

## Virtual Environment Information

This guide applies to both the Standard Edition and the Enterprise Edition of QAD Enterprise Applications. Use the hands-on exercises in this book with the latest Enterprise Edition learning environment in the 10USA > 10USACO workspace. When prompted to log in, specify *demo* for user ID and *qad* for password.

**Note** If you use Standard Edition, complete the exercises in the EE environment; the concepts are the same in both environments and can be applied to Standard Edition. Features that only apply to Enterprise Edition are noted in the text.

## Additional Resources

If you encounter questions on QAD software that are not addressed in this book, several resources are available. The QAD corporate Web site provides product and company overviews. From the main site, you can access the QAD Learning or Support site and the QAD Document Library. Access to some portions of these sites depends on having a registered account.

<http://www.qad.com/>

### QAD Learning Center

To view available training courses, locations, and materials, use the QAD Learning Center. Choose Education under the Services tab to access this resource. In the Learning Center, you can reserve a learning environment if you want to perform self-study and follow a training guide on your own.

### QAD Document Library

To access release notes, user guides, training guides, and installation and conversion guides by product and release, visit the QAD Document Library. Choose Document Library under the Support tab. In the QAD Document Library, you can view HTML pages online, print specific pages, or download a PDF of an entire book.

To find a resource, you can use the navigation tree on the left. You can also use cross-document search, which finds all documents matching your search terms and lets you refine the search by book type, product suite or module, and date published.

### QAD Support

Support also offers an array of tools depending on your company's maintenance agreement with QAD. These support resources include the Knowledgebase and QAD Forums, where you can post questions and search for topics of interest. To access the Knowledgebase or QAD Forums, choose Visit Online Support Center under the Support tab.



Chapter 1

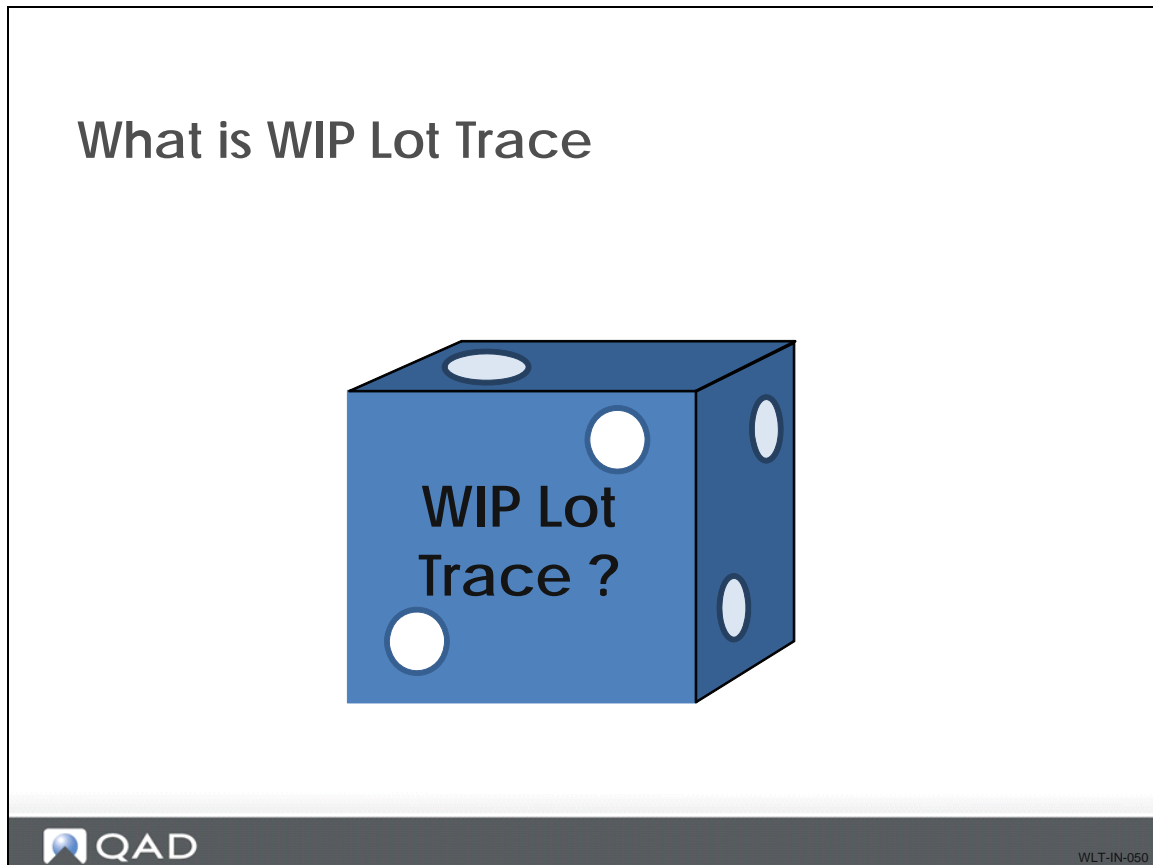
# **Introduction to WLT**

## Course Overview

### Course Overview

- Introduction to WLT
- Business Considerations
- Set up WLT
- Process WLT
- WLT with Work Orders/SFC
- WLT with Advanced Repetitive
- WLT with Repetitive

## What is WIP Lot Trace?



WIP Lot Trace (WLT) is functionality in QAD Enterprise Applications that adds work-in-process (WIP) lot and serial tracing and reporting to several modules.

Tracing records are created at the operation level whenever registered resources are consumed or produced

Use WLT to trace component, WIP material, and finished goods based on parent items, product structures, and routings.

## WIP Lot Features

### WIP Lot Features

- Assigns
  - Assigns lot and serial tracing numbers to WIP
- Creates
  - Creates flexible registration to activate or deactivate WIP lot/serial tracking for all or specific: Bill of Materials (BOMs), Routing Codes, Parent Items, Component Items, Routings, Routing Operations
- Renumbers
  - Renumbers lot/serials from one operation to the next or retains the same numbers throughout all operations
- Traces:
  - WIP lot/serial numbers throughout the manufacturing process and into finished material inventory (including WIP material processed by multiple subcontractors)
  - Component material lots consumed at any operation in a routing to WIP or finished material lots
  - WIP material lots from operation to operation

## WIP Lot Features (continued)

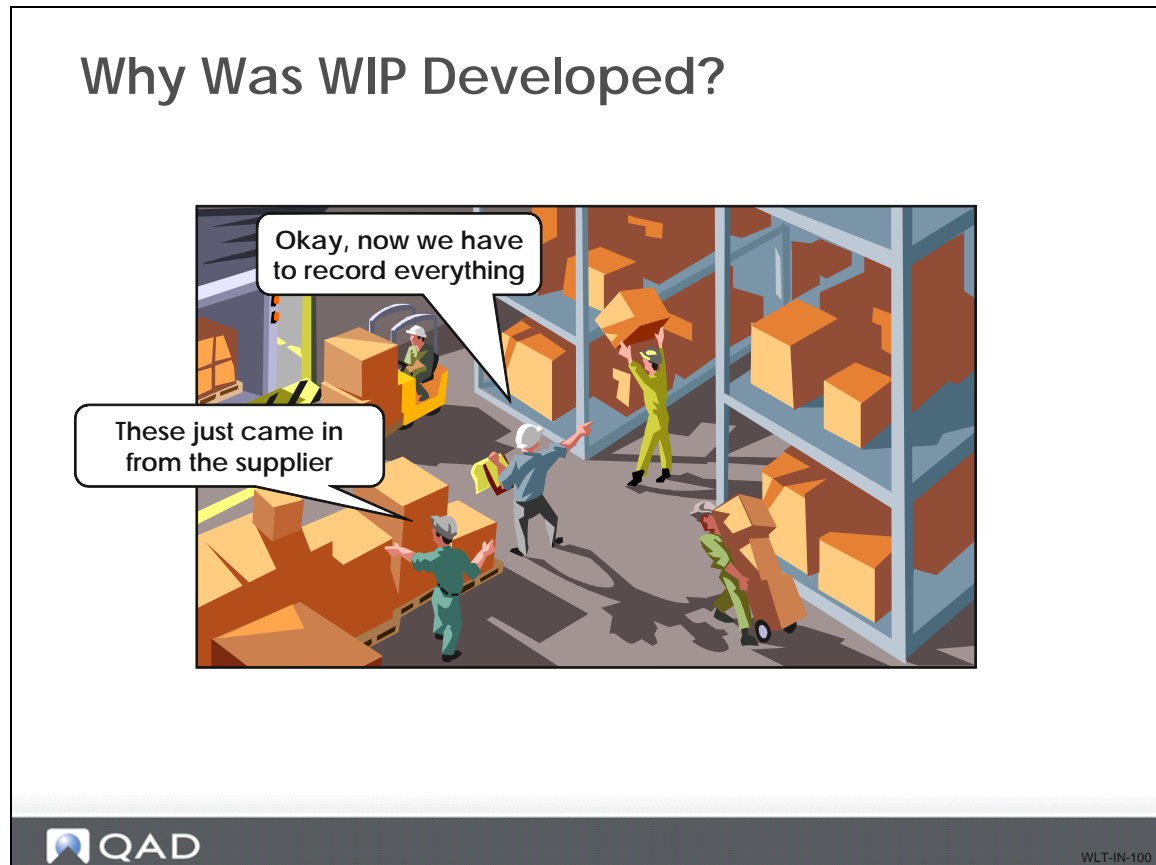
- Determines
  - Determines the constituent WIP or component material lots of finished or WIP material lots
- Maintains:
  - Complete WIP tracing history
  - Up-to-date cumulative scrapped, consumed, and produced quantities for traced WIP lot/ serial numbers at the operations level
  - Quantity-on-hand (QOH) balances at the operation level for traced WIP lot serials
- Generates
  - Reports providing visibility or WIP lot/serial numbers and quantities
  - Can assign WIP lot/serial numbers automatically using Number Range Management (NRM) features
- Controls
  - Lot sizes for all traced material Combining and splitting of lot and component material being traced WIP inventory QOH balances for WIP material lot/serials being traced

## WIP Lot Subcontracting

### WIP Lot Subcontracting

- Captures
  - Captures WIP lot/serial information and maintains QOH balances for WIP material sent to multiple subcontractors
- Moves
  - Moves WIP lots to subcontract operations during shipper confirm
- Backflushes
  - Backflushes subcontracted WIP lots as part of the purchase order (PO) receipts process
- Prints:
  - WIP lot numbers in subcontract shippers
  - WIP lot numbers on subcontract POs

## Why Was WIP Developed?



Many companies are required keep detailed records of the:

- Raw materials they receive from their suppliers
- WIP that consumes those raw materials
- Finished items produced from WIP

Additionally, they must be able to track any WIP material sent for subcontract processing.

Some manufacturing environments require the ability to trace WIP to comply with government and customer safety requirements and regulations.

## WIP Lot Trace - Limitations

### WIP Lot Trace - Limitations

- WLT cannot be used to trace WIP material at non-milestone operations
  - WIP lot/serials are produced only by milestone operations
- WLT does not capture tracing information for the following transactions:
  - Inventory backflush
  - Work order receipt backflush
  - Sales order shipments of final assembly work orders
  - Transactions created by the Service/Support Management (SSM) module

## Terminology

### Terminology

- Lot Combining
- Lot Number
- Lot/Serial Number
- Lot Splitting
- Lot Traceability
- Milestone Operation
- Queue
- Reference
- Serial Number
- WIP



WLT-IN-120

*Lot Combining.* Creating one lot of processed material from several lots of input material.

*Lot Number.* A unique combination of letters and/or numbers identifying a discrete group of items in an inventory location.

*Lot/Serial Number.* Indicates it can be either a lot number or a serial number.

*Lot Splitting.* Creating several lots of processed material from one input lot.

*Lot Traceability.* Lot consumption and production information sufficient to trace material lots through the manufacturing and distribution process.

*Milestone Operation.* An operation, defined in Routing Maintenance (14.13.1), that is used to report completions.

*Queue.* A factory location containing material processed by an operation.

*Reference.* An additional, optional identifier that can be assigned to lot-controlled material.

*Serial Number.* A unique ID assigned to a discrete, single piece of material.

*WIP.* Work In Process. Indicates a product in various stages of completion throughout the plant. Stages include raw material released for manufacturing through processed material awaiting final inspection and acceptance as finished product.

## Supported Operations

### Supported Operations

- Advanced Repetitive
- Inventory Control
- Purchasing
- Shop Floor Control
- (Standard) Repetitive
- Work Orders



WLT-IN-140

Several modules have been modified to use the WLT functionality.

### Advanced Repetitive

- Operation Transaction Detail Inquiry (18.22.4.2)
- WIP Status Report (18.22.4.11)
- Sub Container Maintenance (18.22.5.4)
- Sub Shipper Maintenance (18.22.5.5)
- Sub Shipper Print (18.22.5.9)
- Sub Shipper Issue (18.22.5.11)
- Cumulative Order Close (18.22.10)
- WIP Status Inquiry (18.22.12)
- Backflush Transaction (18.22.13)
- Run Labor Transaction (18.22.14)
- Setup Labor Transaction (18.22.15)
- Reject Transaction (18.22.16)
- Rework Transaction (18.22.17)
- Scrap Transaction (18.22.18)

- Move Transaction (18.22.19)
- WIP Adjust Transaction (18.22.21)

## Inventory Control

- Transfer with Lot/Serial Change (3.4.3)
- Batchload Transfer with Lot/Serial Change (3.4.4)
- Transaction Detail Inquiry (3.21.1)

## Purchasing

- Purchase Order Maintenance (5.7)
- Purchase Order Print (5.10)
- Purchase Order Receipts (5.13.1)
- Purchase Order Returns (5.13.7)
- PO Container Maintenance (5.13.13)
- PO Shipper Maintenance (5.13.14)
- PO Shipper Receipt (5.13.20)

## Shop Floor Control

- Labor Feedback By Work Order (17.1)
- Labor Feedback By Employee (17.2)
- Labor Feedback By Work Center (17.3)
- Operation Move Transaction (17.6)
- Operation Scrap Transaction (17.7)
- Operation Transaction Browse (17.8)
- Operation Transaction Detail Inquiry (17.9)
- Operation by Work Center Report (17.13)
- Operation by Work Order Report (17.14)
- Operation by Employee Report (17.15)

## (Standard) Repetitive

- Repetitive Transaction Detail Inquiry (18.4.2)
- Repetitive Setup Transaction (18.13)
- Repetitive Labor Transaction (18.14)
- Repetitive Rework Transaction (18.16)
- Repetitive Reject Transaction (18.17)
- Repetitive Scrap Transaction (18.18)

## Work Orders

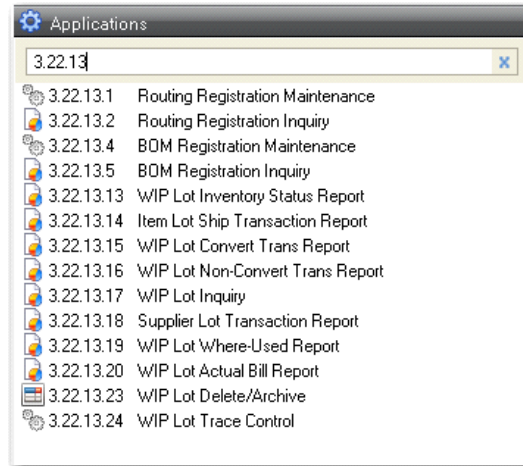
- Work Order Split (16.9)
- Work Order Component Issue (16.10)
- Work Order Receipt (16.11)
- Work Order Receipt Backflush (16.12)
- Work Order Operation Backflush (16.19)

When using WLT in a work order manufacturing environment, be aware of the following:

- Work Order Receipt Backflush (16.12) is disabled because it does not let you report production on an operation per operation basis
- Specifying an operation is required when processing a receipt, issue, or labor transaction for a WLT controlled work order

## WIP Lot Trace Menu

### WIP Lot Trace Menu (3.22.13)



WLT-IN-150

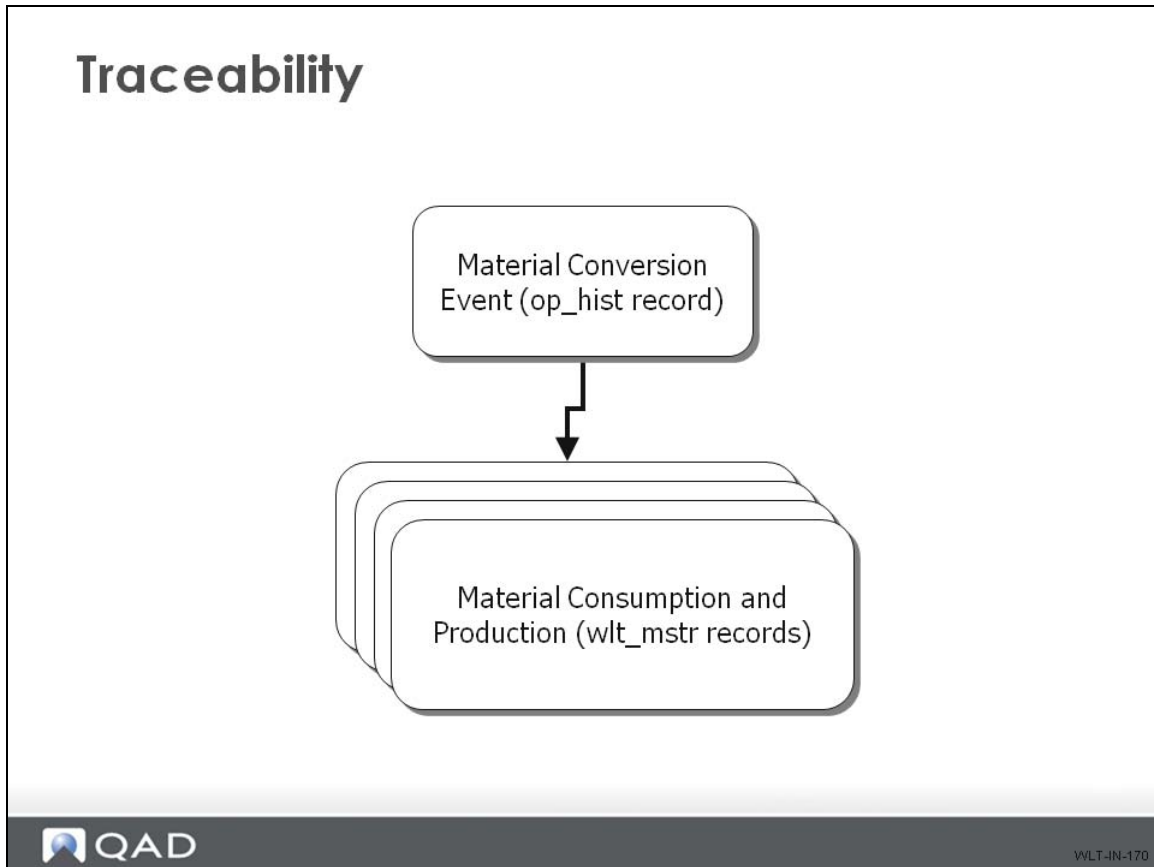
Use the WIP Lot Trace Menu to access specific WLT functions. Turn on WLT by setting the Enable WIP Lot Trace field to Yes in WIP Lot Trace Control (3.22.13.24).

## WLT Functionality

### WLT Functionality

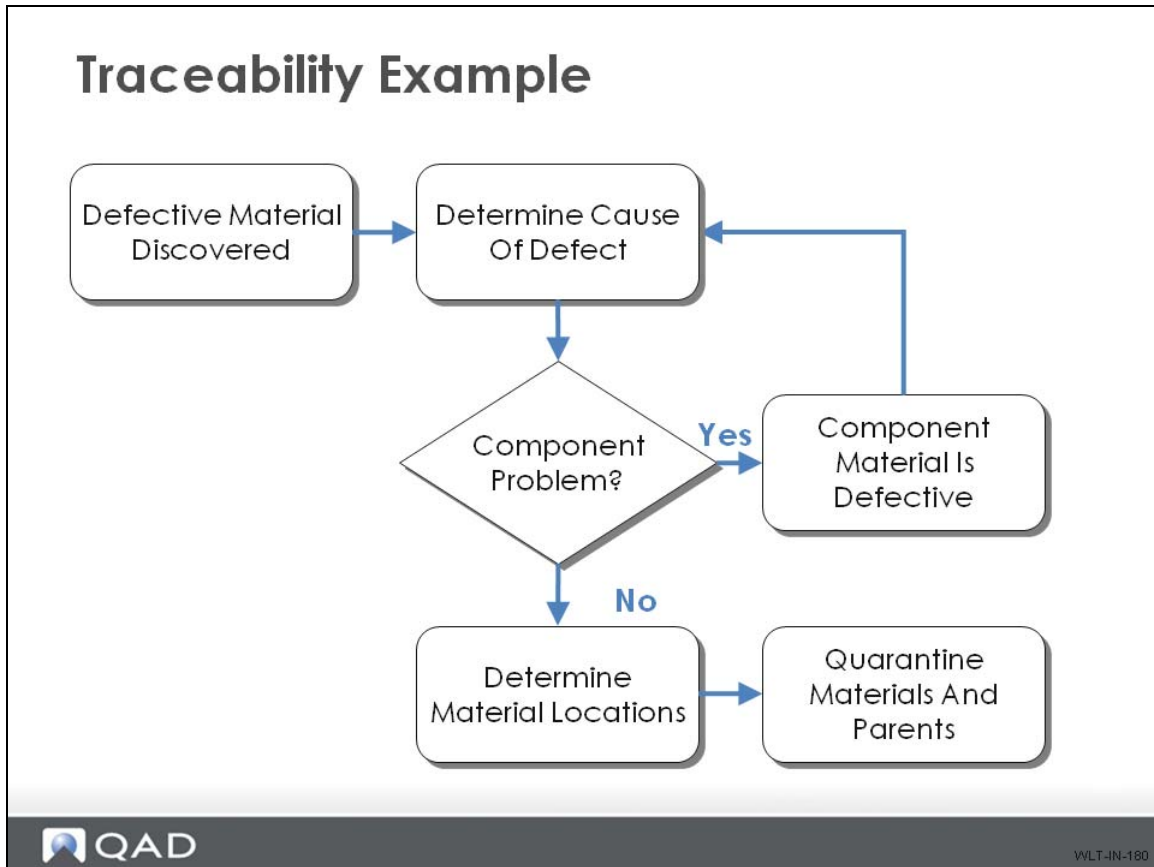
- Traceability
  - Capture and reporting of as-built data
    - Data Capture: By functions that record material conversion events - Data captured:
      - Material conversion event record
      - Operation History (op\_hist)
      - Material consumption and production records
      - WIP Lot Trace Master (wlt\_mstr) (new table)
- WIP Lot Inventory
  - Maintenance and reporting of QOH balances for WIP lot/serials
- Subcontract
  - Handling of WIP lot/serials for subcontract processing

## Traceability



This graphic shows an example of captured data.

### Traceability Example



## Traceability - Data Reporting

### Traceability

- Data Reporting



WLT-IN-190

- WIP Lot Where-Used Report (3.22.13.19)
- Lot Actual Bill Report (3.22.13.20)
- Transaction detail reports
- Transaction detail inquiries

## WIP Lot Inventory

### WIP Lot Inventory

- ✓ Data Maintenance
- ✓ Data Reporting



WLT-IN-200

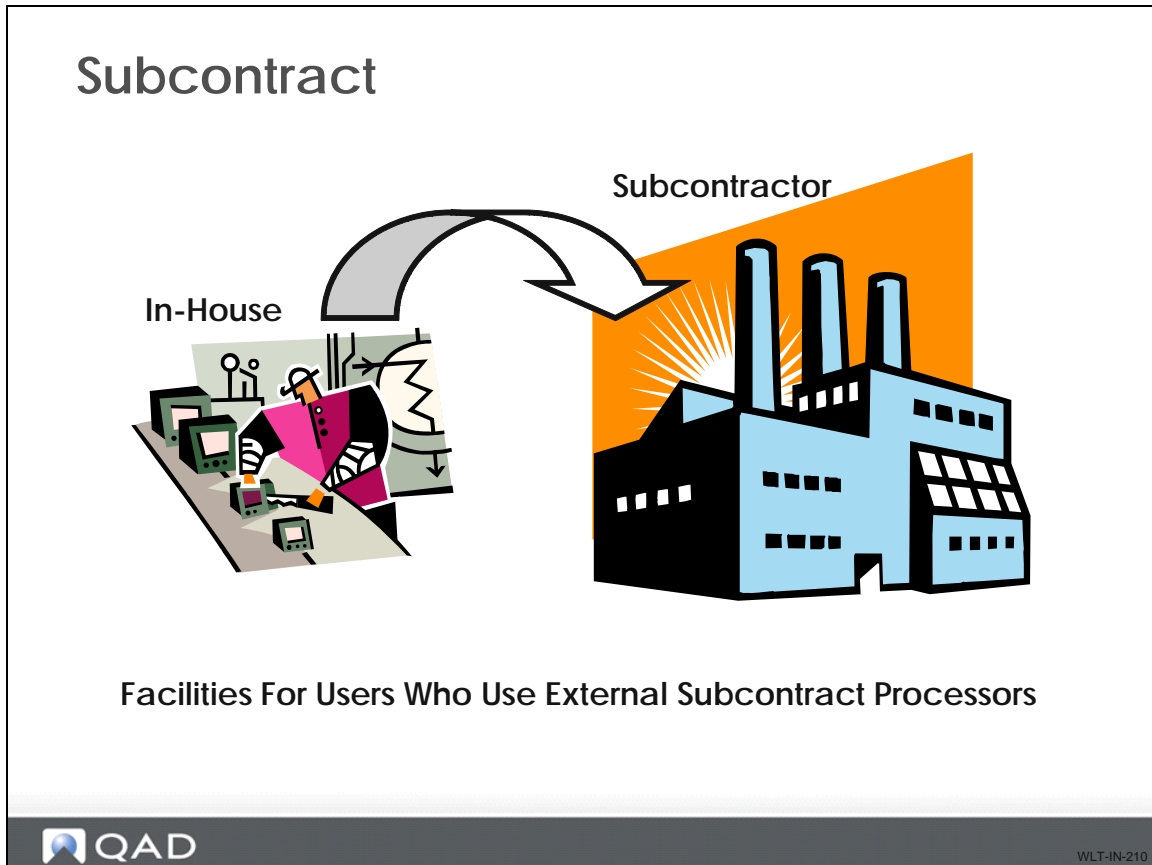
### Data Maintenance

- Quantity on Hand (QOH) balances are maintained by:
  - WIP lot/serial
  - Operation
  - Queue
  - Work center
  - Machine
- Similar to inventory QOH balances
- Updated by material conversion functions (such as Backflush) and other functions (such as Scrap, Reject, Rework, Adjust)

### Data Reporting

- WIP Lot Inventory Status Report (3.22.13.13)
- Advanced Repetitive WIP Status Inquiry/Report

## Subcontract



Traceability data captured/WIP lot QOHs maintained.

- Purchase Order Maintenance (5.7)
  - Entry of a WIP lot/serial on each subcontract-type line
- Purchase Order Print (5.10)
  - Print entered WIP lot/serial
- Sub Container Maintenance (18.22.5.4) and Sub Shipper Maintenance (18.22.5.5)
  - Entry of a list of WIP lot/serials to ship
- Sub Shipper Print (18.22.5.9)
  - Print WIP lot/serials entered
- Advanced Repetitive Sub Shipper Confirm
  - Moves WIP lot/serials to next operation
- Purchase Order Receipts (5.13.1)
  - Backflushes the referenced operation
  - Entry of WIP lot/serials consumed and produced

## Review Questions

- 1 Does WIP Lot Trace impact component items? (Y/N)
- 2 Does WIP Lot Trace track items at non-milestone operations? (Y/N)
- 3 How does WIP Lot Trace impact Sales Orders?
- 4 Does WIP Lot Trace give you visibility of items after sale? (Y/N)

Chapter 2

# **Business Considerations**

## Course Overview

### Business Considerations

In this section you learn how to:

- **Identify key business considerations before setting up WLT in QAD Standard Edition**
- Set up WLT in QAD Standard Edition
- Process WLT in QAD Standard Edition
- WLT with Work Orders/SFC
- WLT with Advanced Repetitive
- WLT with Repetitive

## Considerations

### Business Considerations

- Tracing Requirements
- Subcontracted Tracing Requirements



WLT-BU-030

There are several business issues to consider before setting up WIP Lot Trace. This section does not discuss all potential considerations, but presents several to generate thought and discussion.

## Tracing Requirements

### Tracing Requirements

- Create WIP Lot and serial tracing records at operation level
- Think about:
  - which material to trace
  - milestone operations
  - lot-sizing restrictions
  - inventory issuing restrictions
  - inventory reference tracing
  - lot splitting or combining
  - lot/serial format requirements



WLT-BU-040

### Definition

WLT enables you to create WIP lot and serial tracing records at the operation level whenever registered resources are consumed or produced. How you define your tracing requirements determines exactly what tracing records are created. First determine exactly how much tracing your manufacturing environment requires. Once that requirement is determined, you can set up or define your individual tracing requirements.

### What to Consider?

- Decide which material to trace based on which routings and BOMs consume components, then create the WIP material you want to trace
- Know the milestone operations
- If there are any lot-sizing restrictions in your manufacturing environment, list these restrictions, organized according to routing, operation, and work center
- If there are any inventory lot quantities issuing restrictions, create records in Routing Registration Maintenance (3.22.13.1) that prevent or allow WIP lot overissuing based on the routing or routing operation
- If inventory reference tracing is required, set up naming and usage standards for references

- Determine if lot splitting or combining is an issue. If so, clearly define the requirements, then use the information to create records in Routing Registration Maintenance (3.22.13.1) and BOM Registration Maintenance (3.22.13.4)
- If you have specific lot/serial number format requirements, create NRM sequence IDs using Number Range Maintenance (36.2.21.1)

## Functionality and Setup

### Functionality and Setup

- Trace specific items
  - Trace components
  - Trace WIP material
  - Trace finished goods
- Enable WIP Lot trace set to Yes in WLT Control



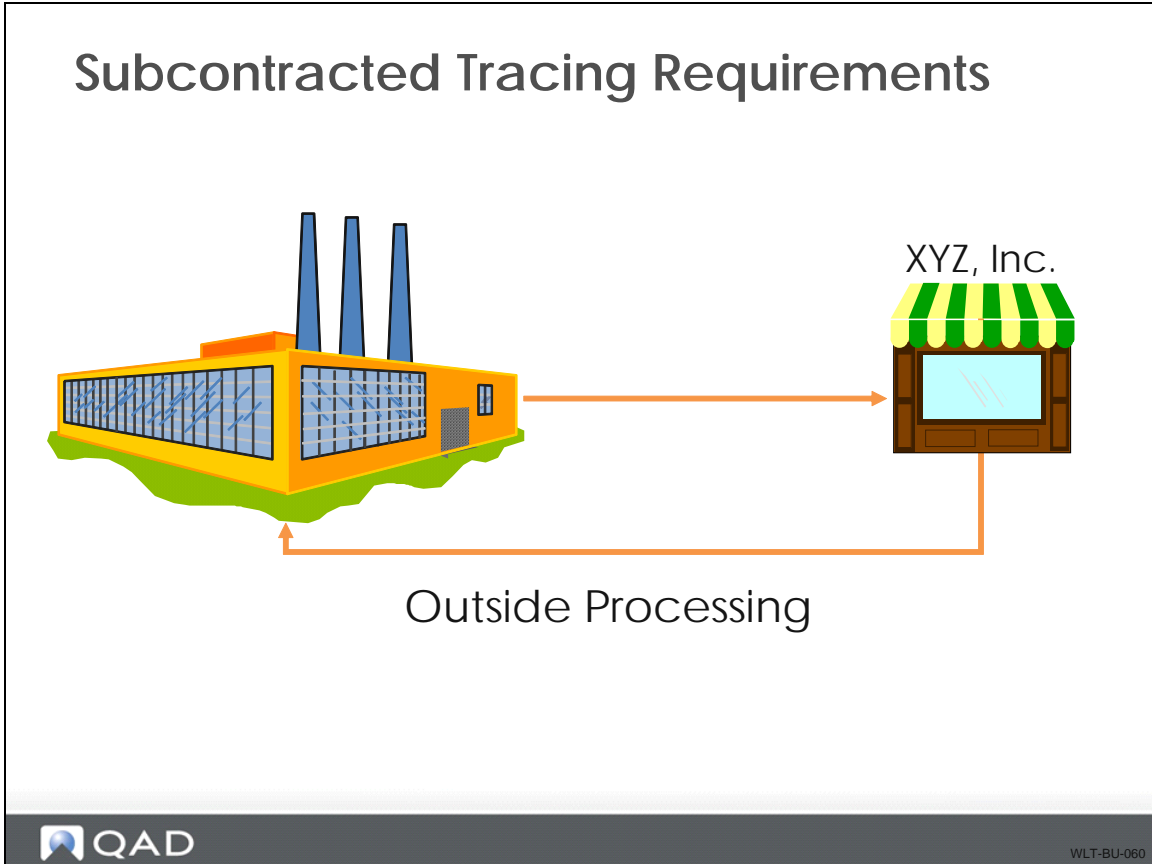
WLT-BU-050

- Trace specific items throughout the manufacturing process
- Trace component and WIP material consumed in the manufacturing of parent items
- Trace component, WIP material, and finished goods based on parent items, product structures, and routings

### Setup Implications

- Set the Enable WIP Lot Trace field to Yes in WIP Lot Trace Control (3.22.13.24) to turn on WLT functionality.

## Subcontracted Tracing Requirements



## Tracing Subcontract Materials

### Tracing Subcontract Materials

- Use WLT to create tracing records of all subcontracted WIP material.
- Create and plan to maintain detailed records of subcontractors qualified to perform each operation
- QAD Standard Edition can trace WIP lot/serial numbers of material processed by multiple subcontractors
- Set in WLT Control



WLT-BU-070

- Set the Enable WIP Lot Trace field to Yes in WIP Lot Trace Control (3.22.13.24) to turn on WLT functionality.
- Use Work Center Maintenance (14.5) to create a work center for each subcontractor
- Use Routing Maintenance (14.13.1) to create or modify existing routing codes that have subcontracted operations

## Business Requirements

### Business Requirements

- Safety Issues
- Recalls
- “Crisis Containment”
- Sources of Quality Problems
- Effects of Quality Problems
- Applicable Industries
  - Automotive
  - Medical
  - Food & Beverage
  - High Tech

## Review

### Review

- Processes and Procedures
- Reporting Requirements
- Customer Expectations
- Product Configuration



WLT-BU-090

### Review Questions

- 1 What kinds of items should be traced? Not traced?
- 2 How do you identify WIP Lot Trace items on the plant floor?

Chapter 3

# Set Up WLT

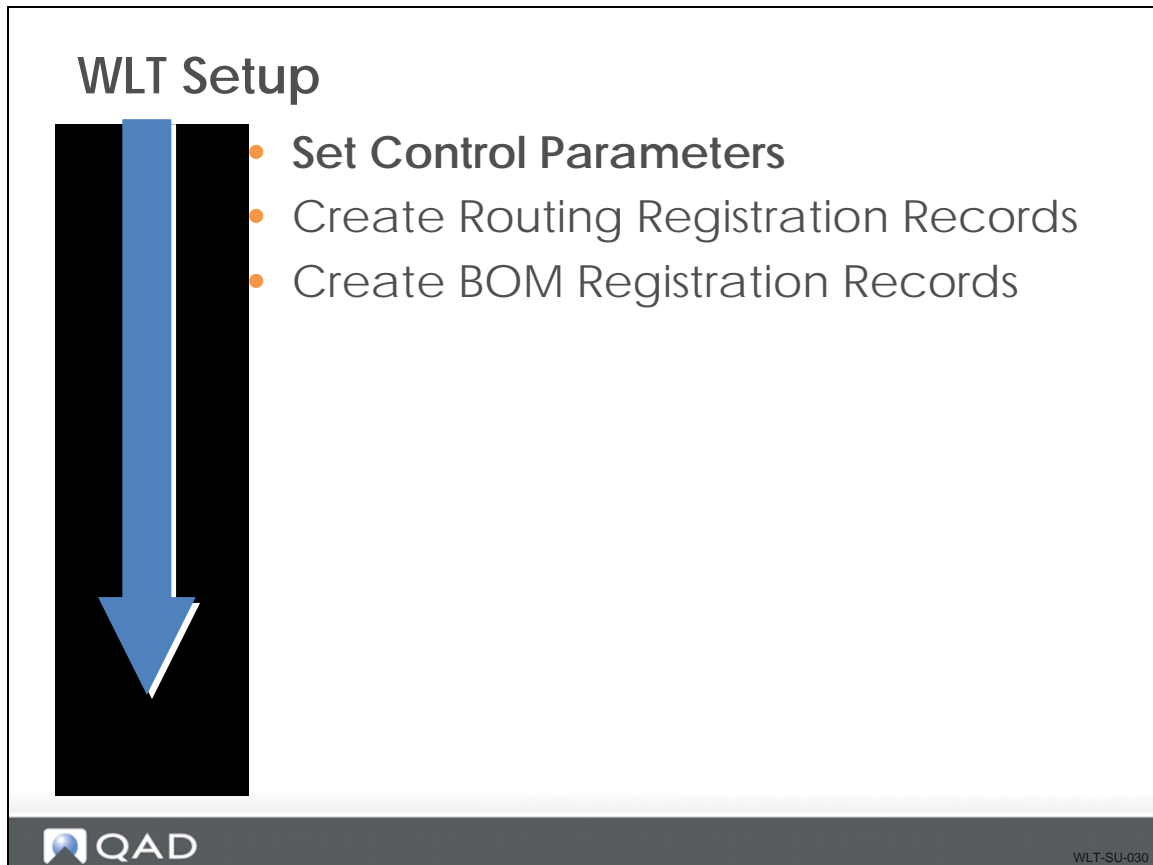
## Course Overview

### Set Up WLT

In this section you learn how to:

- ✓ Identify key business considerations before setting up WLT
- **Set Up WIP Lot Trace**
- Process WIP Lot Trace
- WLT with Work Orders/SFC
- WLT with Advanced Repetitive
- WLT with Repetitive

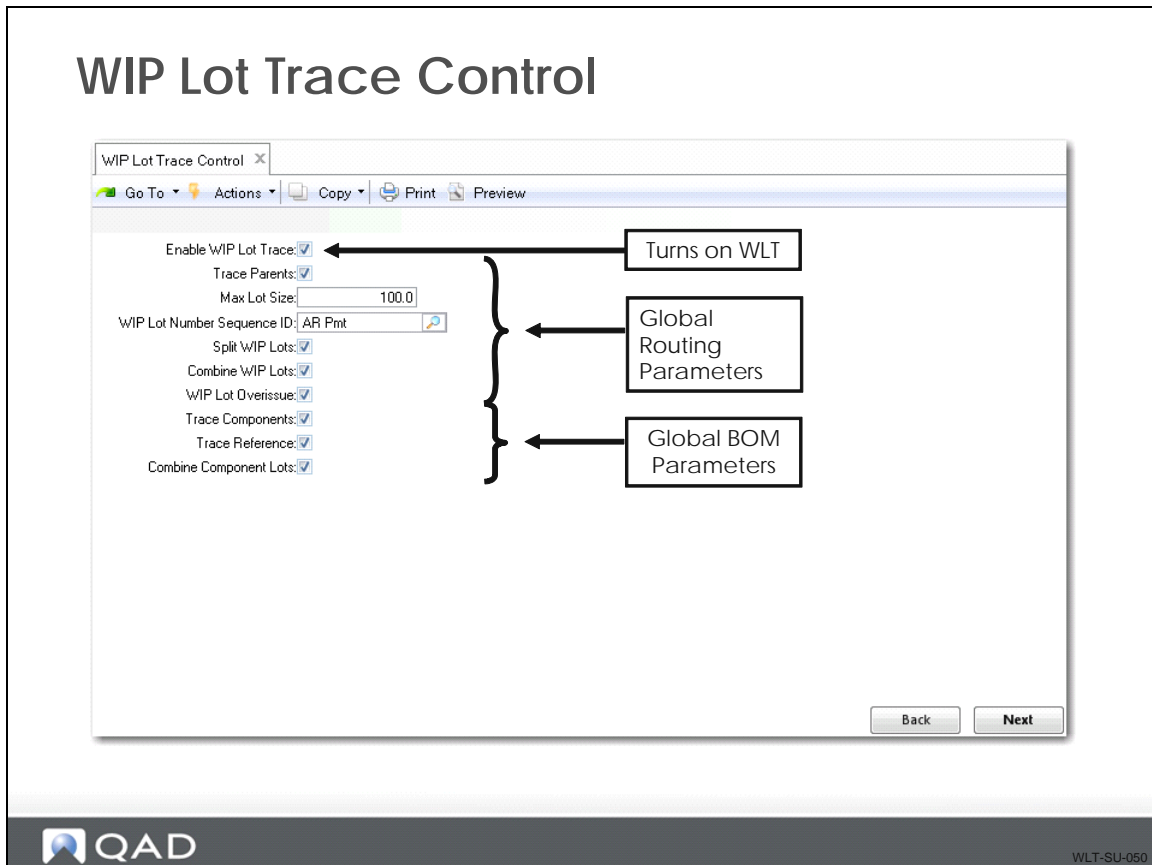
## WLT Setup



This illustration is a suggested setup sequence of master files for the WLT module. It is based on:

- Information that flows from one master file to another
- Prerequisites before setting up a file

## WIP Lot Trace Control



Use WIP Lot Trace Control to enable the WLT module and to set the parameters that apply to all routings and BOMs using WLT in your manufacturing environment.

When WLT is activated, new fields and WLT data collection frames display in programs such as backflush transactions, rework transactions, and reject transactions

- Use the new fields and WLT data collection frames to enter tracing information
- Changes appear in existing (Standard) Repetitive, Advanced Repetitive, Work Orders, Shop Floor Control, and Purchasing programs

## Additional Setup

### Additional Setup

- Advanced Repetitive
- Items
- Routings
- Product Structures
- Product Line

### Exercise: Set Up WIP Lot Trace

QMI produces medical ultrasound equipment at site 10-100 and wants to perform WIP lot trace on the 10MHz probe assembly (50001) and its subcomponents throughout the production process.

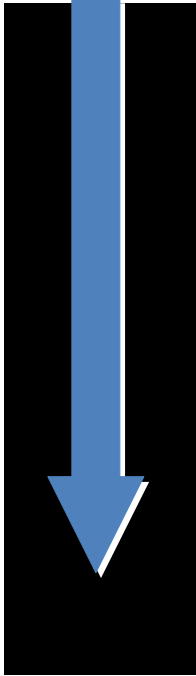
- 1 Use Product Structure by Item Report (13.8.1) to view the product structures of item 01010 and item 50001.
- 2 Use Routing Inquiry (14.13.3) to view routing U-001 and routing P-001 for medical ultrasound (01010) and 10MHz probe assembly (50001) respectively.
- 3 Use WIP Lot Trace Control (3.22.13.24) to configure global settings for WIP Lot Trace. Since we do not want to trace all parent and component items, set Trace Parents and Trace Components to No.

Field	Data
Enable WIP Lot Trace	Yes
Trace Parents	No
Split WIP Lots	Yes
Combine WIP Lots	Yes
WIP Lot Overissue	Yes
Trace Components	No
Trace Reference	Yes
Combine Component Lots	Yes

- 4 Use Routing Registration Maintenance (3.22.13.1) to set up WIP lot trace for routing P-001. Set Trace Parents to Yes.
- 5 Use BOM Registration Maintenance (3.22.13.4) to set up WIP lot trace for BOM code 50001. Set Trace Components to Yes.

## Routing Registration Records

### WLT Setup



- ✓ Se Control Parameters
- **Create Routing Registration Records**
- Create BOM Registration Records

## Routing Registration Maintenance

The screenshot displays the 'Routing Registration Maintenance' window. At the top, there is a title bar with the window name and standard OS icons. Below the title bar is a menu bar with 'Go To', 'Actions', 'Copy', 'Print', and 'Preview'. The main content area contains the following fields and options:

- Routing Code: [Text Field]
- Start Date: [Date Picker]
- Trace Parents:
- Max Lot Size: [Text Field]
- WIP Lot Number Sequence ID: [Text Field]
- Split WIP Lots:
- Combine WIP Lots:
- WIP Lot Overissue:
- Lot Trace Start Op: [Text Field]
- Serialized WIP Start Op: [Text Field]
- End Date: [Date Picker]

A large right-facing curly bracket groups the 'Trace Parents', 'Max Lot Size', 'WIP Lot Number Sequence ID', 'Split WIP Lots', 'Combine WIP Lots', 'WIP Lot Overissue', 'Lot Trace Start Op', and 'Serialized WIP Start Op' fields. An arrow points from a text box to this bracket. The text box contains the text: 'Apply to all operations for the specified routing'. At the bottom right of the window are 'Back' and 'Next' buttons.

**QAD** WLT-SU-090

Use Routing Registration Maintenance to define control parameter exceptions for an individual routing code. Create new settings for parent item routings to define these exceptions. Additionally, you can define settings for individual routing operations. The settings defined here override WIP Lot Trace Control settings

Routing Registration Maintenance consists of two frames. In the first frame, you enter control information for the routing code. These settings are used for all operations of the specified routing. However, you can use the second frame to enter control information specific to an operation within the routing. This information overrides the global routing information entered in the first frame.

## Routing Registration Maintenance - Second Frame

### Routing Registration Maintenance (2)

Routing Code: 02-0005  
Start Date: 4/22/2009

Trace Parents:

Max Lot Size: 100.0

WIP Lot Number Sequence ID: AR Pmt

Split WIP Lots:

Combine WIP Lots:

WIP Lot Overissue:

Lot Trace Start Op: 0

Serialized WIP Start Op: 99999

End Date:

Operation: 10

Split WIP Lots:

Combine WIP Lots:

WIP Lot Overissue:

Defaults from the first frame, but can be changed for individual operations

Back Next

QAD WLT-SU-100

Use the fields in the second frame to further define whether to allow lot splitting, combining, and overissuing for a specific operation in the routing.

## BOM Registration Records

### WLT Setup



- ✓ Set Control Parameters
- ✓ Create Routing Registration Records
- Create BOM Registration Records

## BOM Registration Maintenance

### BOM Registration Maintenance

BOM Registration Maintenance x  
 Go To Actions Copy Print Preview

BOM Code: 02-0001  
Start Date: 4/22/2009

Trace Components:


Trace Reference:

Combine Component Lots:

End Date:

Apply to all component items for the specified BOM

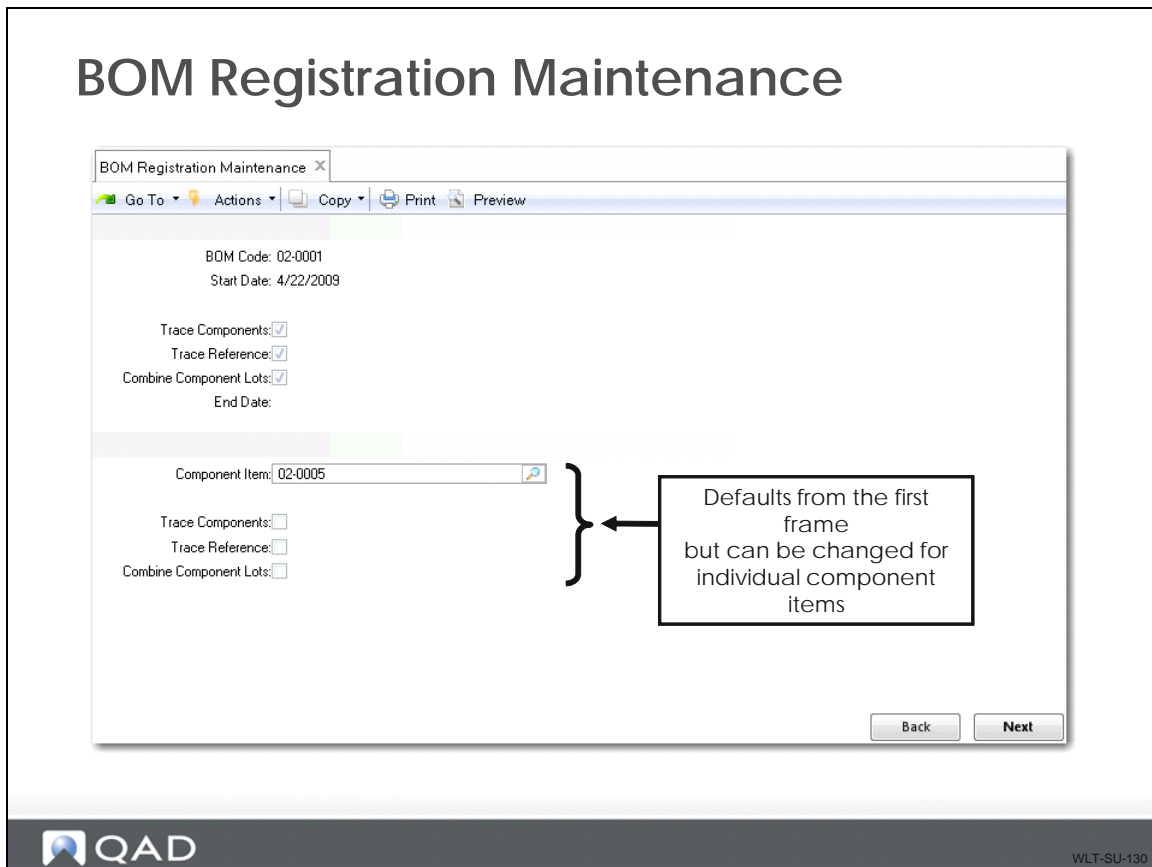
Delete Back Next


WLT-SU-120

Use BOM Registration Maintenance to define control parameter exceptions for an individual BOM. You can also define settings for individual BOM component items. The settings defined here override WIP Lot Trace Control settings.

BOM Registration Maintenance consists of two frames. In the first frame, you enter control information for the BOM. These settings are used for all component items for the specific BOM code. However, you can use the second frame to enter control information for a component of the BOM.

## BOM Registration Maintenance - Second Frame



In the second frame, you can override the BOM registration controls for a specific component item.

Changes you make here override the controls set in the first frame for this component in this BOM code only.

You also have the option of further defining whether to:

- Trace components or references
- Allow combining of component lots for specific component in the BOM

## Summary: Routings and Routing Operations

### Summary

#### Routings and Routing Operations

- Routing and routing operations become WLT controlled when:
  - Trace Parents is set to Yes in WIP Lot Trace Control (3.22.13.24) and a routing registration does not exist for the routing being used
    - Set up in Routing Registration Maintenance (3.22.13.1)
    - All operations for that routing become WLT controlled
- A WLT routing registration is active for the routing
  - WLT control begins at the start operation (Operation field) specified in the registration record



WLT-SU-140

For our activity, no exceptions are set up to the WIP Lot Trace rules set in the control program.

## Summary - Components

### Summary

- Components
  - A component item becomes WLT controlled when it is consumed at a WLT controlled operation and either of the following is true:
    - Trace Components is set to Yes in WIP Lot Trace Control
    - Trace Components is Yes in BOM Registration Maintenance (3.22.13.4) for any BOMs that use the component

Chapter 4

# Process WLT

## Course Overview

### Process WLT

In this section you learn how to:

- ✓ Identify key business considerations before setting up WLT
- ✓ Set Up WIP Lot Trace
- **Process WIP Lot Trace**
- WLT with Work Orders/SFC
- WLT with Advanced Repetitive
- WLT with Repetitive

## Processing Tips

### Processing Tips

- WIP material cannot be traced at non-milestone operations
- WIP lot/serial balances can reside only at milestone operations
- Some normally editable fields are not editable
  - WLT data collection frames are used to record the information
- WIP QOH balances cannot reside in the input queue of the first milestone operation, even if the first milestone operation is not the first operation
- Any information entered in WLT data collection frames is used to update QOH balances and WLT history records
- Before processing any WLT modified transactions, the system checks for associated WLT routing or BOM registrations that include lot splitting, combining, and size restrictions
  - If none are found, the system then looks for related restrictions in WIP Lot Trace Control (3.22.13.24)

## WLT Data Collection Frames

### WLT Data Collection Frames

- Destination Work Center and Machine
- WIP Lot Input Queue Issue Data
- WIP Lot Output Queue Receipt Data
- WIP Lot Reject Data
- WIP Lot Scrap Data
- WIP Lot Reject Queue Scrap Data
- WIP Lot Input Queue Scrap Data
- WIP Lot Output Queue Scrap Data
- Labor WIP Lots
- Reporting Rework Data
- WIP Lot Move Data
- Current Work Center and Machine
- Issued To WIP Lots
- WIP Lot Output Queue Issue Data



WLT-PR-040

During processing, the system uses WLT data collection frames to collect, record, and update tracing records. Depending on how you have set up your tracing control parameters, these frames appear in various programs in the following modules:

- Repetitive
- Advance Repetitive
- Work Orders
- Shop Floor Control
- Purchasing

## Destination Work Center and Machine Frame

### Destination Work Center and Machine Frame

Backflush Transaction
Go To Actions Copy Print Preview Attach


Item: 01010
Employee: 10-EMP01
Site: 10-100

Employee: 10-EMP01	Alex Erikson	
Document:		
Effective: 10/25/2010	Shift:	Site: 10-100
Item Number: 01010	Medical Ultrasound	
Operation: 10	ASSEMBLE COMPONENTS	
Line:		
Routing: U-001	ID: 2287245	

Destination Work Center and Machine

Work Center: 1050	🔍
Machine: 1001	🔍

Work Center: 1000	Assembly	General Assembly-Ultra
Department: 0400		
Qty Processed: 100.0	UM: EA	Conversion: 1.0000
Qty Scrapped: 0.0	Reason Code:	Multi Entry: <input type="checkbox"/>
Qty Rejected: 0.0	Reason Code:	Multi Entry: <input type="checkbox"/>
Reject To Op: 10	Modify Backflush: <input type="checkbox"/>	Move Next Op: <input checked="" type="checkbox"/>
Actual Run Time: 0.0		Start Time:
Earning Code: REG Regular		Elapsed or Stop Time:


WLT-PR-050

Use the Destination Work Center and Machine frame to specify where to move the WIP material produced at the current operation.

- System uses the information to update QOH balances for the affected queues
- Appears in:
  - Labor Feedback by Work Order (17.1)
  - Labor Feedback by Employee (17.2)
  - Labor Feedback by Work Center (17.3)
  - Work Order Operation Backflush (16.19)
  - Repetitive Labor Transaction (18.14)
  - Repetitive Rework Transaction (18.16)
  - Backflush Transaction (18.22.13)
  - Reject Transaction (18.22.16)
  - Rework Transaction (18.22.17)
  - Move Transaction (18.22.19)

## WIP Lot Input Queue Issue Data Frame

### WIP Lot Input Queue Issue Data Frame

Backflush Transaction
Go To Actions Copy Print Preview Attach

Item:01010
Employee:10-EMP01
Site:10-100

Employee: 10-EMP01      Alex Erikson

Document:

Effective: 10/25/2010      Shift:      Site: 10-100

Item Number: 01010      Medical Ultrasound

Operation: 10      ASSEMBLE COMPONENTS

WIP Lot Output Queue Receipt Data - Qty Processed: 100 EA

R

245

Work Center: 1000      Machine: 1001      General Assembly-Ultra

Department: 0400      Assembly

Qty Processed: 100.0      UM: EA      Conversion: 1.0000

Qty Scrapped: 0.0      Reason Code:      Multi Entry:

Qty Rejected: 0.0      Reason Code:      Multi Entry:

Reject To Op: 10      Modify Backflush:       Move Next Op:

Actual Run Time

Earning Code	Lot/Serial	Ref	Quantity
	Lot 5		

Start Time:

Stop Time:

WLT-PR-060

Use the WIP Lot Input Queue Issue Data frame to register the lot/serial numbers, references, and quantities of the WIP material being consumed at the current operation.

- Displays when the previous operation's output queue and the current operation's input queue are WLT controlled
- Appears in:
  - Purchase Order Receipts (5.13.1)
  - Purchase Order Returns (5.13.7)
  - Work Order Component Issue (16.10)
  - Work Order Operation Backflush (16.19)
  - Repetitive Labor Transaction (18.14)
  - Repetitive Reject Transaction (18.17)
  - Backflush Transaction (18.22.13)

## WIP Lot Output Queue Receipt Data Frame

**WIP Lot Output Queue Receipt Data Frame**

Backflush Transaction X

Go To Actions Copy Print Preview Attach

Item: 01010 Employee: 10-EMP01 Site: 10-100

---

Employee: 10-EMP01 Alex Erikson  
 Document:  
 Effective: 10/25/2010 Shift: Site: 10-100  
 Item Number: 01010 Medical Ultrasound  
 Operation: 10 ASSEMBLE COMPONENTS

Line: WIP Lot Output Queue Receipt Data - Qty Processed: 100 EA

Routing: U-001	Lot/Serial	Ref	Quantity	ID: 2287245


---

Work Center: 1000 Machine: 1001 General Assembly-Ultra  
 Department: 0400 Assembly

Qty Processed: 100.0 UM: EA Conversion: 1.0000  
 Qty Scrapped: 0.0 Reason Code: Multi Entry:   
 Qty Rejected: 0.0 Reason Code: Multi Entry:   
 Reject To Op: 10 Modify Backflush:  Move Next Op:

Actual Run Time: Start Time:  
 Earning Code: Lot/Serial Ref Quantity Stop Time:

Earning Code	Lot/Serial	Ref	Quantity	Stop Time:
	Lot 5		100	

 WLT-PR-070

Use the WIP Lot Output Queue Receipt Data frame to report the WIP lot/serial numbers, references, and quantities of the WIP material an operation produces.

- Appears in:
  - Purchase Order Receipts (5.13.1)
  - Purchase Order Returns (5.13.7)
  - Work Order Operation Backflush (16.19)
  - Labor Feedback by Work Order (17.1)
  - Labor Feedback by Employee (17.2)
  - Labor Feedback by Work Center (17.3)
  - Repetitive Labor Transaction (18.14)
  - Backflush Transaction (18.22.13)

## WIP Lot Reject Data Frame

### WIP Lot Reject Data Frame

Backflush Transaction

Go To Actions Copy Print Preview Attach

Item: 01040 Employee: 11-EMP01 Site: 10-100

Employee: 11-EMP01    Angela Patens

Document:

Effective: 10/13/2010    Shift:    Site: 10-100

Item Number: 01040    Industrial Ultrasound

Operation: 10    ASSEMBLE COMPONENTS

Line: WIP Lot Reject Data - Qty Rejected: 5 EA

Routing	Lot/Serial	Ref	Code	Quantity
	Lot6			2287247
				5.0

Work Center: 1000    Machine: 1001    General Assembly-Ultra

Department: 0400    Assembly

Qty Processed: 10.0    UM: EA    Conversion: 1.0000


Qty Scrapped: 0.0    Reason Code:    Multi Entry:

Qty Rejected: 5.0    Reason Code:    Multi Entry:

Reject To Op: 10    Modify Backflush:     Move Next Op:

Actual

Lot/Serial	Ref	Code	Quantity
Lot6			5.0


WLT-PR-080

Use the WIP Lot Reject Data frame to report the WIP lot/serial numbers, references, reject codes, and quantities of rejected material.

- Quantity is moved from the operation's output queue to the reject queue
- Appears in:
  - Repetitive Labor Transaction (18.14)
  - Repetitive Reject Transaction (18.17)
  - Backflush Transaction (18.22.13)
  - Reject Transaction (18.22.16)

## Reporting Scrap Data

### Reporting Scrap Data

Backflush Transaction X

Go To Actions Copy Print Preview Attach

Item: 01040 Employee: 11-EMP01 Site: 10-100

Employee: 11-EMP01 Angela Patens

Document:

Effective: 10/13/2010 Shift: Site: 10-100

Item Number: 01040 Industrial Ultrasound

Operation: 10 ASSEMBLE COMPONENTS

Line: WIP Lot Scrap Data - Qty Scrapped: 3 EA

Routing	Lot/Serial	Ref	Code	Quantity
	Lot7			3.0

Work Center: 1000 Machine: 1001 General Assembly-Ultra

Department: 0400 Assembly

Qty Processed: 3.0 UM: EA Conversion: 1.0000


Qty Scrapped: 3.0 Reason Code: Multi Entry:

Qty Rejected: 0.0 Reason Code: Multi Entry:

Reject To Op: 10 Modify Backflush:  Move Next Op:

Actual:

Lot/Serial	Ref	Code	Quantity
Lot7			3.0


WLT-PR-090

There are four different WLT frames that can be used to record WLT controlled material being scrapped from an operation's input, output, or reject queues. Each frame records lot/serial numbers, references, scrap codes, and quantities being scrapped.

- WIP Lot Scrap Data Frame appears in:
  - Repetitive Labor Transaction (18.14)
  - Backflush Transaction (18.22.13)
- WIP Lot Reject Queue Scrap Data Frame appears in:
  - Repetitive Scrap Transaction (18.18)
  - Scrap Transaction (18.22.18)
- WIP Lot Input Queue Scrap Data Frame appears in:
  - Operation Scrap Transaction (17.7)
  - Repetitive Labor Transaction (18.14)
  - Backflush Transaction (18.22.13)
  - Repetitive Scrap Transaction (18.22.18)
- WIP Lot Output Queue Scrap Data Frame appears in:
  - Operation Scrap Transaction (17.7)
  - Repetitive Scrap Transaction (18.22.18)

## Labor WIP Lots Frame

The screenshot shows a software interface for 'Setup Labor Transaction'. The main window displays the following information:

- Employee: 11-EMP01 (Angela Patens)
- Document:
- Effective: 10/25/2010
- Shift: Site: 10-100
- Item Number: 01040 (Industrial Ultrasound)
- Operation: 10 (ASSEMBLE COMPONENTS)
- Line:
- Routing: 01040 (BOM Code: 01040, ID: 2287247)
- Work Center: 1000
- Department: 0400
- Act Setup Time: 0.0
- Earning Code: REG Regular

A modal dialog box titled 'Labor WIP Lots' is overlaid on the main window, containing a list of input fields for 'Lot/Serial' numbers. The background window also shows 'Start Time:' and 'Elapsed or Stop Time:' fields.

Use the Labor WIP Lots frame to associate run and set up labor time with corresponding lot/serial numbers. When the output queue of the operation being processed is WLT controlled, the Labor WIP Lots frame appears in:

- Repetitive Setup Transaction (18.13)
- Run Labor Transaction (18.22.14)
- Setup Labor Transaction (18.22.15)

## Reporting Rework Data

## Reporting Rework Data


Rework Transaction
Go To | Actions | Copy | Print | Preview | Attach

Item: 01040    Employee: 11-EMP01    Site: 10-100

Employee: 11-EMP01    Angela Patens  
 Document:  
 Effective: 10/25/2010    Shift:    Site: 10-100  
 Item Number: 01040    Industrial Ultrasound  
 Operation: 10    ASSEMBLE COMPONENTS  
 Line:

WIP Lot Rework Data - Qty to Rework: 0 EA    ID: 2287247  
 Produced By Op:   
 Lot/Serial:     Reference:   
 Reworked Lot/Serial:     Reference:

Unit of Measure: EA    Conversion: 1.0000  
 Qty Reworked: 0.0    Reason Code:    Multi Entry:   
 Modify Backflush:   
 Actual Run Time: 0.0    Start Time:  
 Earning Code: REG    Regular    Elapsed or Stop Time:  
 To Operation: 10    ASSEMBLE COMPONENTS    To Queue: Output


WLT-PR-110

Use the WIP Lot Rework Data frame to specify the WIP lot/serial numbers and references that were reworked.

- Can also be used to assign new WIP lot/serial numbers and references to WIP material
- Appears in:
  - Repetitive Rework Transaction (18.16)
  - Rework Transaction (18.22.17)

## WIP Lot Move Data Frame

### WIP Lot Move Data Frame

Move Transaction x

Go To Actions Copy Print Preview Attach

Item: 01040 Employee: 11-EMP01 Site: 10-100

Employee: 11-EMP01      Angela Patens

Document:

Effective: 10/25/2010      Shift:      Site: 10-100

Item Number: 01040      WIP Lot Move Data - Qty To Move: 6 EA

Operation:	Lot/Serial	Ref	Quantity
Line:	Lot8		6.0
Routing: 01040			

ID: 2287247

---

Work Center: 1000      Machine: 1001      General Assembly-Ultra


Department: 0400      Assembly

Unit of Measure: EA      Conversion: 1.0000

Quantity To Move: 6.0

Modify Receipt

Lot/Serial	Ref	Quantity
Lot8		6.0


WLT-PR-120

Use the WIP Lot Move Data frame to record the WIP lot/serial numbers, references, and quantities of material being moved.

Appears in:

- Operation Move Transaction (17.6)
- Move Transaction (18.22.19)
- Sub Container Maintenance (18.22.5.4)
- Sub Shipper Maintenance (18.22.5.5)

**Note** This frame does not appear if you are moving WIP quantities to finished goods inventory. The Receipt Data Input frame appears for receipt of finished goods into inventory.

## Current Work Center and Machine Frame

### Current Work Center and Machine Frame

Work Order: 1003	ID: 2287248	Op: 20	Effective: 10/25/2010
Item Number: 01010	WD Stat: R	Issue Alloc: <input type="checkbox"/>	Issue Picked: <input checked="" type="checkbox"/>
Medical Ultrasound			
Document:			
Current Work Center and Machine			
Work Center: 1050			
Machine: 1001			

Use the Current Work Center and Machine frame to specify the work center and machine location from where the operation consumes the input WIP lot/serial inventory.

Appears in:

- Work Order Component Issue (16.10)
- Work Order Receipt (16.11)

## Issued to WIP Lots Frame

Work Order Component Issue

Go To Actions Copy Print Preview Attach

Work Order: 1003 ID: 2287248

Work Order: 1003 ID: 2287248 Op: 20 Effective: 10/25/2010  
 Item Number: 01010 WD Stat: R Issue Alloc:   
 Medical Ultrasound Issue Picked:   
 Document:

Issued To WIP Lots

Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:   
 Lot/Serial:

QAD WLT-PR-140

Use the Issued To WIP Lots frame to specify the produced WIP lot/serial numbers to which the specified components and WIP material are being issued.

**Note** The WIP material issued is specified in the WIP Lot Input Queue Issue Data frame that appears immediately before this frame.

Appears in:

- Work Order Component Issue (16.10)

## WIP Lot Output Queue Issue Data Frame

### WIP Lot Output Queue Issue Data Frame

Work Order Receipt X  
 Go To Actions Copy Print Preview Attach  
 Work Order: 1003 ID: 2287248

Work Order: 1003	ID: 2287248	Effective: 10/25/2010
Remarks:	Batch:	
Item Number: 01010	Lot/Serial Control: S	UM: EA
Description: Medical Ultrasound	W/O Stat: R	
Open Quantity: 10.0	Automatic Lot Numbers: <input type="checkbox"/>	

WIP Lot Output Queue Issue Data UOM: EA

Document:	Lot/Serial	Ref	Quantity
Quantity:	Lot10		20.0

UM:

Conversion: Lot/Serial

Scrapped Qty: Reference:


UM: Multi Entry:

UM Conversion: Set Attributes:

Total Units: 0.0

Remarks:
 

Close:	Lot/Serial	Ref	Quantity
	Lot10		20.0


WLT-PR-150

Use the WIP Lot Output Queue Issue Data frame to enter a list of the WIP lot/serial number consumed from the previous operation's output queue in the specified work center and machine.

Appears in:

- Work Order Receipt (16.11)

### Review Questions

- 1 What causes the WIP Lot data entry frames to display?
- 2 Can you reject partial lots using WIP Lot Trace? (Y/N)
- 3 Can you move WIP Lots into finished goods inventory? (Y/N)



Chapter 5

# **WLT with Work Orders/SFC**

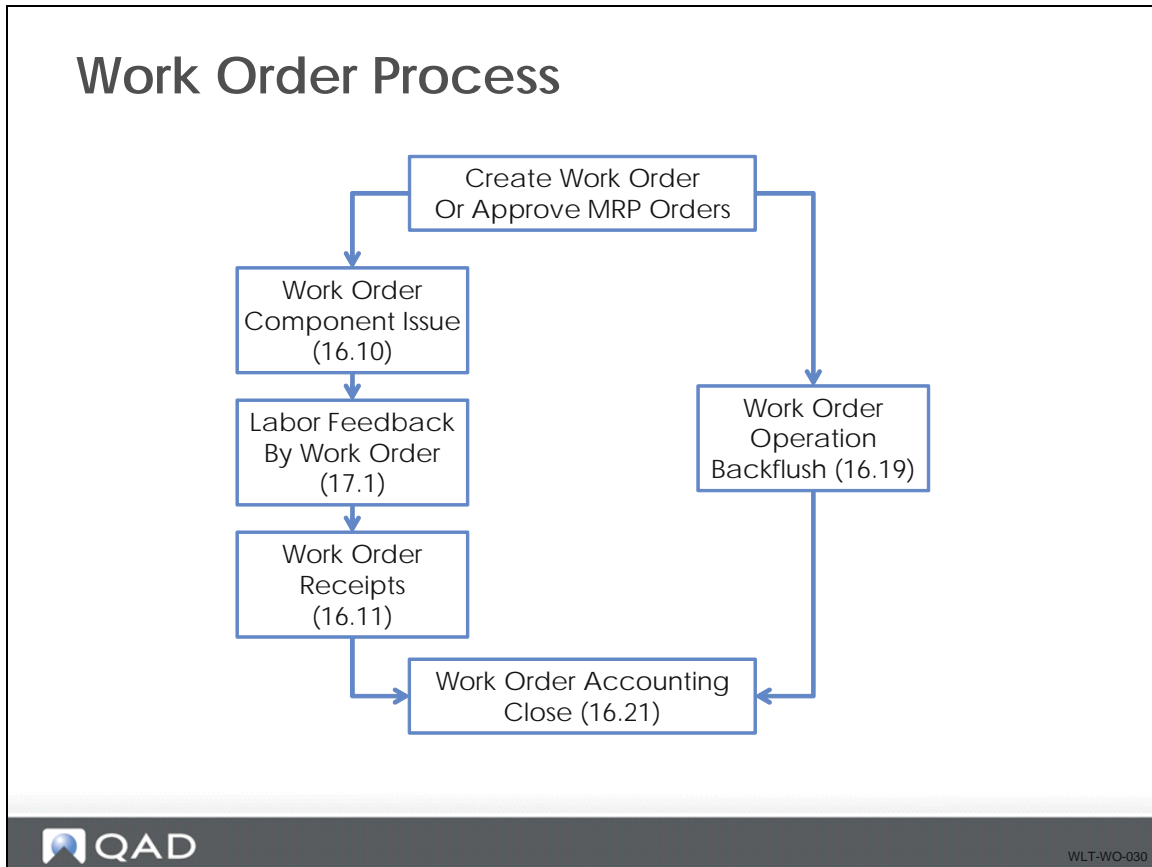
## Course Overview

### WLT with Work Orders

In this section you learn how to:

- ✓ Identify key business considerations before setting up
- ✓ Set up WIP Lot Trace
- ✓ Process WIP Lot Trace
- **WLT with Work Orders/SFC**
- WLT with Advanced Repetitive
- WLT with Repetitive

## Work Order Process



When processing a work order (WO), the system uses WLT data collection frames to collect tracing information when the WO is WLT-controlled. A WO is WLT-controlled when:

- WLT has been enabled
- Trace Parents is set to Yes in the WIP Lot Trace Control (3.22.13.24), or
- A WLT BOM registration record is active for the parent item being manufactured and Trace Parents is Yes for that BOM registration record

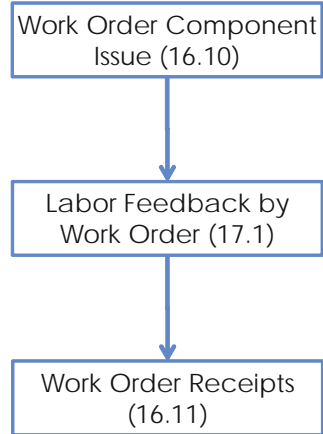
The graphic shows two methods for processing a WO. In the first method, the job flow is:

- Issue the components
- Report labor
- Receive finished goods into inventory

The second, or alternative, method is to use Work Order Operation Backflush (16.19). It combines issuing, labor reporting, and receiving functions.

## Work Order Process

# Work Order Process



Work Order Component Issue

## Work Order Component Issue

**Issued To WIP Lots Frame**

Work Order Component Issue x

Go To Actions Copy Print Preview Attach

Work Order: 1003 ID: 2287248

Work Order: 1003 ID: 2287248 Op: 20 Effective: 10/25/2010

Item Number: 01010 W/D Stat: R Issue Alloc:

Medical Ultrasound Issue Picked:

Document:

- Issued To WIP Lots

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

Lot/Serial:

QAD WLT-WO-050

Use Work Order Component Issue to issue component and WIP material to WLT-controlled WOs. It uses the following WLT data collection frames:

- Current Work Center and Machine
- WIP Lot Input Queue Issue Data
- Issued to WIP Lots

## Labor Feedback by Work Order

# Labor Feedback by Work Order

Labor Feedback by Work Order
WIP Lot Output Queue Receipt Data

Go To Actions Copy Print Preview Attach

Work Order: 1003
ID: 2287248
Employee:

Work Order: 1003

Operation: 20 TEST FINISHED UNIT

Document:

Employee:

Department: 0160

Shift:

ID: 2287248

Op Status:

Pay Code: REG

Work Center: 1050

Time Ind: Hours Minutes

Quantity Completed: 20-2 2.0 2/25/2010

Rejected:

Rework:

Start Setup: 00:00:00

Elapsed/Stop Setup: 00:00:00

Start Run: 00:00:00

Elapsed/Stop Run: 00:00:00

Move to Next Operation:

Previous Ops Complete:

Lot/Serial	Ref	Quantity
20-1		1.0
20-2		2.0

Lot/Serial	Ref	Quantity
20-2		2.0

WLT-WO-060

To report labor, you can use any of the following Shop Floor Control programs:

- Labor Feedback by Work Order (17.1)
- Labor Feedback by Employee (17.2)
- Labor Feedback by Work Center (17.3)

The labor feedback programs use the following WLT data collection frame:

- WIP Lot Output Queue Receipt Data frame

## Work Order Receipt

### Work Order Receipt

Work Order Receipt
WIP Lot Output Queue Issue Data Frame

---

Work Order: 1003
ID: 2287248
Effective: 10/25/2010

Remarks:
Batch:

Item Number: 01010
Lot/Serial Control: S
UM: EA

Description: Medical Ultrasound
W/O Stat: R

Open Quantity: 10.0
Automatic Lot Numbers:

WIP Lot Output Queue Issue Data UOM: EA

Document:	Lot/Serial	Ref	Quantity
Quantity:	Lot10		20.0

UM:
Lot/Serial:

Conversion:
Reference:

Scrapped Qty:
Multi Entry:

UM:
Set Attributes:

UM Conversion:
Total Units: 0.0

Remarks:

Close:	Lot/Serial	Ref	Quantity
	Lot10		20.0

WLT-WO-070

Use Work Order Receipt to receive the finished goods manufactured with WLT-controlled routings. Work Order Receipt uses these WLT data collection frames:

- Current Work Center and Machine
- WIP Lot Output Queue Issue Data

## Work Order Process

# Work Order Process

Work Order Operation  
Backflush (16.19)

## Work Order Operation Backflush

# Work Order Operation Backflush

## WIP Lot Output Queue Receipts Data


Work Order: 1003 ID: 2287248

Work Order: 1003	ID: 2287248	Work Order Status: R
Item Number: 01010	Medical Ultrasound	
Operation: 10	ASSEMBLE COMPONENTS	Op Status:
Document:		

WIP Lot Output Queue Receipt Data - Qty Processed: 10 EA

Lot/Serial	Ref	Quantity
Lot7		10.0

Lot/Serial	Ref	Quantity
Lot7		10.0


WLT-WO-090

You can also use Work Order Operation Backflush to process a WO. It uses the following WLT data collection frames:

- WIP Lot Input Queue Issue Data
- Destination Work Center and Machine
- WIP Lot Output Queue Receipt Data

## Exercise: Work with WIP Lot Trace

### Create Work Order

- 1 Use Work Order Maintenance (16.1) to create a work order for two units of 10MHz probe assembly (50001) at site 10-100. Record the work order number.
- 2 Use Work Order Component Check (16.5) to check if there are any component shortages for the work order created. If shortages exist, use Receipt - Unplanned (3.9) to receive enough components into site 10-100 to cover the shortage. For serial-controlled items, use the same item number with a suffix to define serial numbers; for example, 60004-S001, 60004-S002, etc.
- 3 Use Work Order Release/Print (16.6) to release the work order.
- 4 Use Work Order Component Issue (16.10) to issue materials to operation 10 for the work order. In addition to the component material to issue, you are prompted to enter a list of WIP material to issue. You are also be prompted to enter a list of WIP lot numbers to which the issued WIP and component lot/serials are issued. Note that these WIP lot numbers are not “produced” by this transaction. They are used to form the association between the materials issued and the materials that are produced later.
- 5 Click back until the “Is all information correct?” message appears to complete the transaction; confirm by clicking Yes.

### View WIP Lot Tracing Data

- 1 Now you can view the tracing data the component issue transaction creates. Use Operation Transaction Detail Inquiry (16.20.13.9) to review the operation transaction detail. It defaults to your last transaction (ISSUE).
- 2 Advance to the WIP Lot Trace Data frame. The data displayed shows the material lots consumed and produced as a result of your issue transaction.  
**Note** The WIP material is listed with an item number which is the same as the parent item number.
- 3 Use WIP Lot Convert Trans Report (3.22.13.15) to view the same detail in report format.
- 4 Use WIP Lot Where-Used Report (3.22.13.19) to view downstream traceability.
- 5 Use WIP Lot Actual Bill Report (3.22.13.20) to view composed-of traceability.

### Labor Feedback by Work Order

Register an operation completion at the second operation. You are prompted to enter a list of WIP lot numbers that were produced. This action also updates the QOH for the WIP lot/serials produced.

- 1 Use Labor Feedback by Work Order (17.1) to record the labor feedback by entering the following:

Field	Data
Work Order	[The work order number entered]
Operation	10
Employee	[Use your Down Arrow to select the first record]
Qty Completed	3
Operation Complete	No

- 2 Advance to the WIP Lot Output Queue Receipt Data frame and enter the following:

Field	Data
Lot/Serial	10-1
Ref	[Blank]
Qty	1

Repeat this action using the following data:

Field	Data
Lot/Serial	10-2
Ref	[Blank]
Qty	2

Click back until the “Is all information Correct?” message appears to complete the transaction; confirm by clicking Yes.

- 3 Use WIP Lot Inventory Status Report (3.22.13.13) to view the WIP lot/serial QOH balances for this work order.

### Work Order Receipts

Record the completion of finished material, similar to an Advanced Repetitive backflush at the last operation. You are prompted to enter a list of output queue WIP lot/serials to consume. Tracing data is recorded to show the consumption of the WIP lot/serials entered and the production of the finished-material lots entered. QOH balances are adjusted.

- 1 Use Work Order Receipt (16.11) to process the receipt; enter the work order number of the work order created earlier.
- 2 Advance to the WIP Lot Output Queue Issue Data frame and enter the following:

Field	Data
Lot/Serial	L1
Ref	[Blank]
Qty	1

Repeat this action using the following data:

Field	Data
Lot/Serial	L2
Ref	[Blank]
Qty	2

3 In the main data entry frame, enter the following:

Field	Data
Quantity	3
Site	10-200
Location	200
Lot/Serial	FGL2

Click back until the “Is all information Correct?” message appears to complete the transaction; confirm by clicking Yes.

- 4 Use Operation Transaction Detail Inq (17.13.9) to review the operation transaction detail. It defaults to your last transaction (RECEIPT).
- 5 Advance to the WIP Lot Trace Data frame.  
The data displayed shows the material lots consumed and produced as a result of your last transaction.  
**Note** The WIP material is listed with an item number the same as the parent item number.
- 6 Use WIP Lot Convert Trans Report (3.22.13.15) to view the same detail in report format.
- 7 Use WIP Lot Where-Used Report (3.22.13.19) to view downstream traceability.
- 8 Use WIP Lot Actual Bill Report (3.22.13.20) to view composed-of traceability.

Chapter 6

# **WLT with Advanced Repetitive**

## Course Overview

### WLT with Advanced Repetitive

In this section you learn how to:

- ✓ Identify key business considerations before setting up WLT
- ✓ Set up WIP Lot Trace
- ✓ Process WIP Lot Trace
- ✓ WLT with Work Orders/SFC
- **WLT with Advanced Repetitive**
- WLT with Repetitive

## Advanced Repetitive

### Advanced Repetitive

- Backflushing WIP Material
- Reporting Run and Setup Labor
- Reworking Rejected Material
- Scrapping Reject Material
- Adjusting WIP Quantities



WLT-AR-030

When processing a cumulative order in the Advanced Repetitive module, the system uses WLT data collection frames to collect tracing information when the cumulative order is WLT-controlled.

## Backflush Transaction

# Backflush Transaction

WIP Lot Output Queue Receipt Data


Backflush Transaction x  
 Go To Actions Copy Print Preview Attach  
 Item: 01040 Employee: 11-EMP01 Site: 10-100

Employee: 11-EMP01 Angela Patens  
 Document:  
 Effective: 10/25/2010 Shift: Site: 10-100  
 Item Number: 01040 Industrial Ultrasound  
 Operation: 10 ASSEMBLE COMPONENTS  
 Line: WIP Lot Output Queue Receipt Data - Qty Processed: 10 EA  
 Routing: 01040 Lot/Serial Ref Quantity ID: 2287247  
                   Lot5 10.0

Work Center: 1000 Machine: 1001 General Assembly-Ultra  
 Department: 0400 Assembly

Qty Processed: 10.0 UM: EA Conversion: 1.0000  
 Qty Scrapped: 0.0 Reason Code: Multi Entry:   
 Qty Rejected: 0.0 Reason Code: Multi Entry:   
 Reject To Op: 10 Modify Backflush:  Move Next Op:

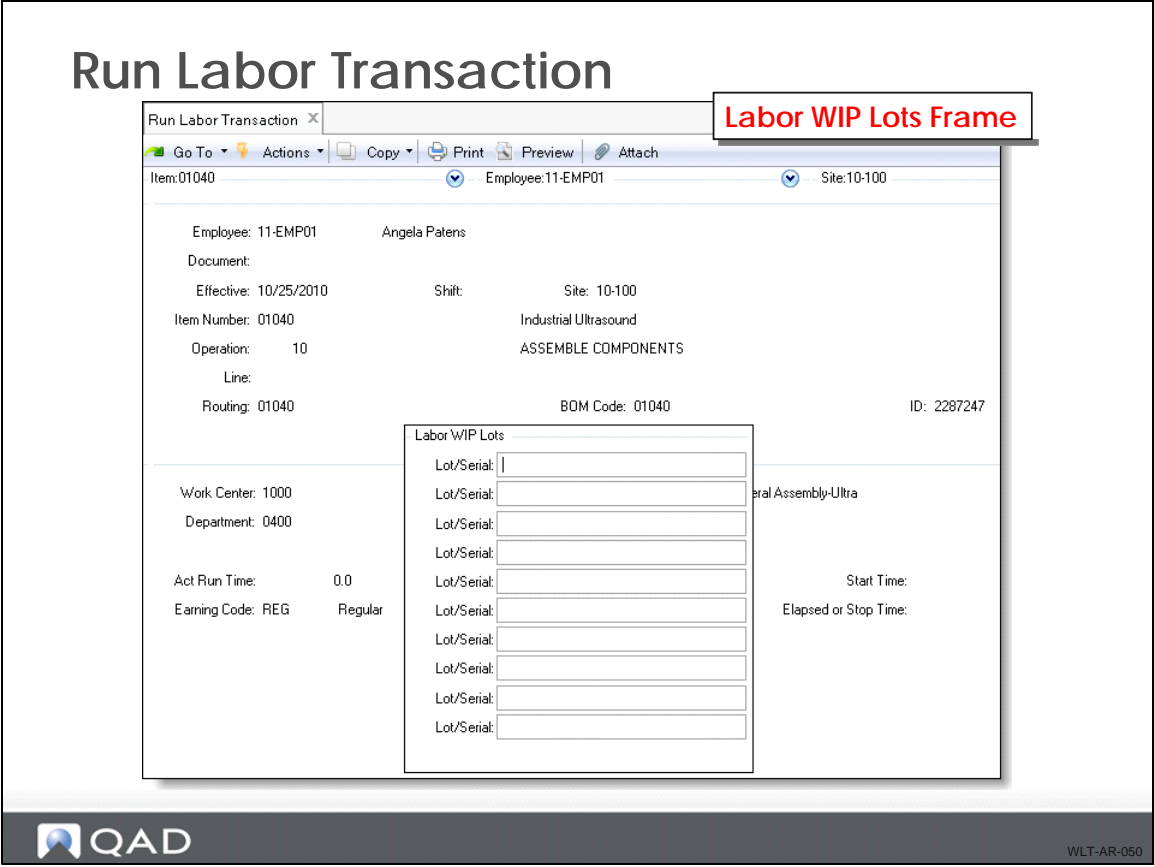
Actual Run Time Start Time:  
 Earning Code Lot/Serial Ref Quantity Stop Time:  
                   Lot5 10.0


WLT-AR-040

Use Backflush Transaction to report production activity at advanced repetitive manufacturing operations. When WLT is active, the following WLT data collection frames display:

- Destination Work Center and Machine
  - Appears only if Move Next Op is set to Yes
- WIP Lot Input Queue Issue Data
- WIP Lot Output Queue Receipt Data
- WIP Lot Scrap Data
  - Appears only if you enter a value in the Qty Scrapped field
- WIP Lot Reject Data
  - Appears only if you enter a value in the Qty Rejected field

### Run Labor Transaction



Use Run Labor Transaction to report labor performed for WLT controlled lot/serial numbers. You do this using the WLT data collection frame:

- Labor WIP Lots

**Note** Setup Labor Transaction (18.22.15) works similarly.


## Rework Transaction

### Rework Transaction

WIP Lot Rework Data Frame

The screenshot shows a software window titled "Rework Transaction" with a menu bar (Go To, Actions, Copy, Print, Preview, Attach) and a header area containing "Item: 01040", "Employee: 11-EMP01", and "Site: 10-100". The main content area displays employee information (Angela Patens), document details (Effective: 10/25/2010, Shift, Site: 10-100), and item details (Item Number: 01040, Industrial Ultrasound, Operation: 10, ASSEMBLE COMPONENTS). A central "WIP Lot Rework Data - Qty to Rework: 1 EA" frame is highlighted, containing fields for "Produced By Op: 10", "Lot/Serial: 40-1", and "Reworked Lot/Serial: 40-1R". Below this, various parameters are listed: Unit of Measure: EA, Conversion: 1.0000, Qty Reworked: 1.0, Reason Code, Multi Entry checkbox, Actual Run Time: 0.0, Start Time, Earning Code: REG Regular, Elapsed or Stop Time, and To Operation: 10 ASSEMBLE COMPONENTS To Queue: Output. An ID number 2287247 is also visible.


WLT-AR-060

Use Rework Transaction to move previously rejected WLT-controlled material back into production. The following WLT data collection frames display:

- Destination Work Center and Machine
- WIP Lot Rework Data

## Scrap Transaction

# Scrap Transaction

WIP Lot Output Queue Scrap Data Frame

Scrap Transaction x

Go To Actions Copy Print Preview Attach

Item: 01040 Employee: 11-EMP01 Site: 10-100

Employee: 11-EMP01 Angela Patens

Document:

Effective: 10/25/2010 Shift: Site: 10-100

Item Number: 01040 Industrial Ultrasound

Operation: 10 ASSEMBLE COMPONENTS

Link: WIP Lot Output Queue Scrap Data - Qty Scrapped: 2 EA

Routing	Lot/Serial	Ref	Code	Quantity
	lot7			2.0

Work Center: 1000 Machine: 1001 General Assembly-Ultra

Department: 0400 Assembly


Unit of Measure: EA Conversion: 1.0000

In Queue: From Queue: Multi Entry:

Out Queue: 2.0 Reason Code: Multi Entry:

Reject Queue: 0.0 Reason Code: Multi Entry:

Lot/Serial	Ref	Code	Quantity
lot7			2.0


WLT-AR-070

Use Scrap Transaction to scrap or remove WIP quantities from any queue of an operation without backflushing. Depending on which queue you are scrapping material from, one or more of the following WLT data collection frames appear:

- WIP Lot Input Queue Scrap Data
  - Enter a value in the In Queue field
- WIP Lot Output Queue Scrap Data
  - Enter a value in the Out Queue field
- WIP Lot Reject Queue Scrap Data
  - Enter a value in the Reject Queue field

The system reduces the WIP QOH at each queue by the quantity scrapped at the indicated work center and machine (specified in the second frame). It also adds the quantity scrapped to the cumulative scrapped quantity for the specified lot/serials.

## WIP Adjust Transaction

### WIP Adjust Transaction

WIP Lot Output Queue Adjust Data


Wip Adjust Transaction x  
 Go To Actions Copy Print Preview Attach  
 Item: 01040 Employee: 11-EMP01 Site: 10-100

Employee: 11-EMP01 Angela Patens  
 Document:  
 Effective: 10/25/2010 Shift: Site: 10-100  
 Item Number: 01040 Industrial Ultrasound  
 Operation: 10 ASSEMBLE COMPONENTS  
 Line: WIP Lot Output Queue Adjust Data: UOM: EA

Routing:	Lot/Serial	Ref	Qty on Hand	Code
	Lot8		-6.0	2287247

Work Center: 1000 Machine: 1001 General Assembly-Ultra  
 Department: 0400 Assembly  
 Unit of Measure: EA  
 In Queue: From Queue:  
 Out Queue: -6.0 Reason Code:  
 Reject Queue: 5.0 Reason Code:

Inv Discrep Acco	Lot/Serial	Ref	Qty on Hand	Code
	Lot8		-6.0	


WLT-AR-080

Use WIP Adjust Transaction to adjust quantities at an operation's input, output, and reject queues. The following WLT data collection frames display:

- WIP Lot Input Queue Adjust Data
- WIP Lot Output Queue Adjust Data
- WIP Lot Reject Queue Adjust Data

**Note** When using WLT, the In Queue, Out Queue, and Reject Queue fields are not available. Enter the WLT data collection frames to enter adjustments to QOH balances for the WIP lot/serials in each queue.

## Exercise: Work with Advanced Repetitive

### Set up Lot Trace

Use WIP Lot Trace Control (3.22.13.24) to configure global settings for WIP Lot Trace. Set Trace Parents and Trace Components to Yes.

Field	Data
Enable WIP Lot Trace	Yes
Trace Parents	Yes
Max Lot Size	0
WIP Lot Number Sequence ID	WIPL0T
Split WIP Lots	Yes
Combine WIP Lots	Yes
WIP Lot Overissue	Yes
Trace Components	Yes
Trace Reference	Yes
Combine Component Lots	Yes

### Backflush

Backflush the first operation of your parent item's routing. You are then prompted to enter the lot numbers of the WIP the material conversion event produces. Because this operation is the first operation, you are not prompted for input WIP lot/serials to consume.

- 1 Use Backflush Transaction (18.22.13) to perform backflush.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Line	2130
Qty Processed	300

Record the cumulative order ID (displays in the lower-right corner of the first frame):

\_\_\_\_\_

- 2 Accept the destination work center and machine.
- 3 Advance to the WIP Lot Output Queue Receipt Data frame and enter the following:

Field	Data
Lot/Serial	L1
Ref	[Leave blank]
Qty	100

Enter the following to create a second entry:

Field	Data
Lot/Serial	L1
Ref	[Leave blank]
Qty	100

## View Tracing Data

- 1 Use Operation Trans Detail Inquiry (18.22.4.2) to review the operation transaction (BACKFLSH) detail.
- 2 View the WIP Lot Convert Trans Report (3.22.13.15). Enter your cumulative order ID in the ID and To fields.

The data displayed shows the material lots consumed and produced as a result of your backflush transaction, similar to Operation Trans Detail Inquiry. WIP material is listed with Type of WIP and with an Item Number the same as the parent item number.

**Note** WIP Lot Convert Trans Report is called that because tracing data is recorded only when material is converted (e.g., fabricated, assembled, reworked, etc.).

- 3 Use WIP Lot Actual Bill Report (3.22.13.20) to print a WIP Lot Actual Bill Report:

Field	Data
Material Type (Item/WIP)	WIP
Item Number	02001
Produced by ID	[Cumulative order ID]
Produced by Op	10
Lot/Serial	L1
To	L2

- 4 Review the report and take note of the following:
  - The component you backflushed as the level 1 line.
  - The Qty value is the total quantity of this lot/serial that was consumed.
  - A level 2 lines follows each level 1 line.
  - The level 2 lines represent the material that was consumed to produce their respective level 1 lines.
  - The Qty value is the quantity consumed into its respective level 1 line.

## View WIP Lot Inventory

- 1 Use WIP Status Inquiry (18.22.12) to view the on-hand balances:

Field	Data
Effective	[Accept the default]
Site	10-200
Item Number	02001
Operation	20
Line	2130

**Note** View operation 20 because Move To Next Op in the Backflush Transaction is set to Yes.

- 2 Review the report. Look at the WIP Lot Inventory section. This section displays a list of the WIP lots at this operation.
- 3 Use WIP Lot Inventory Status Report (3.22.13.13) to print the WIP Lot Inventory Status Report. Enter the ID of the cumulative order in the ID and To fields.
- 4 Review the report. The two WIP lots you entered in the Backflush Transaction are shown.

## Run Labor Transaction

Record labor against an operation. You are prompted to enter the lot numbers of the WIP to which this reported labor is associated.

- 1 Use Run Labor Transaction (18.22.14) to record labor.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Line	2030
Act Run Time	500

- 2 Advance to the Labor WIP Lots frame and enter L1 in the first Lot/Serial field.
- 3 Use Operation Trans Detail Inquiry (18.22.4.2) to review the operation transaction detail. It defaults to your last transaction (LABOR).
- 4 Advance to the WIP Lot Trace Data frame. The data displayed shows the WIP lot/serial entered with a quantity of 0.0 (zero). This tracing record is created to associate the reported labor with the “production” of the WIP lot/serial.

**Note** Setup Labor Transaction (18.22.15) works similarly.

## WIP Adjust Transaction

Modify WIP lot/serial QOH balances at an operation.

- 1 Use WIP Adjust Transaction (18.22.21) to adjust the data.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Line	2130

- 2 Advance to the WIP Lot Input Queue Adjust Data frame.  
This frame presents a list of the input queue WIP lot/serials and QOH balances for this operation.
- 3 Enter several WIP lot/serials and quantities. Entries in the list are added or updated.

- 4 Advance to the WIP Lot Output Queue Adjust Data frame and enter several WIP lot/serials and quantities.
- 5 Advance to the WIP Lot Reject Queue Adjust Data frame and enter several WIP lot/serials and quantities.
- 6 Cycle back through the transaction. You see your updated entries.
- 7 WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13) to view the updated WIP lot/serial QOH balances.
- 8 Use Operation Trans Detail Inquiry (18.22.4.2) to review the operation transaction detail. It defaults to your last transaction (WIPADJ-x).
- 9 Advance to the WIP Lot Processed frame.  
This frame shows the WIP lot/serial adjusted by this transaction. Notice that there is one Operation History record written for each WIP lot/serial adjusted.  
**Note** You can also use WIP Lot Non-Convert Trans Report (3.22.13.16) to display this information.

## Scrap Transaction

Scrap quantities of WIP lot/serial QOH balances at an operation.

- 1 Use Scrap Transaction (18.22.18) to begin the scrap process.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Line	2130

- 2 Advance to the second (lower) frame. Enter 2 in the In Queue, Out Queue and Reject Queue fields.
- 3 Advance to the WIP Lot Input Queue Scrap Data frame. Press the Lookup key to display a list of WIP lot/serials at that operation. Select one and enter 10 in Qty.  
**Note** You can enter a non-existent WIP lot/serial if necessary.
- 4 Repeat the process for the WIP Lot Output Queue Scrap Data frame and the WIP Lot Reject Queue Scrap Data frame.
- 5 Use WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13) to view the updated WIP lot/serial QOH balances.
- 6 Review the transaction history for your last transaction (SCRAP-x).
- 7 Advance to the WIP Lot Processed frame.  
This frame shows the WIP lot/serial this transaction scrapped. Notice that there is one Operation History record written for each WIP lot/serial scrapped.

**Note** You can also use WIP Lot Non-Convert Trans Report (3.22.13.16) to display this information.

## Move Transaction

This function moves WIP from the output queue of one operation to the input queue of the following operation. You use this transaction when manual control over moving WIP to the next operation is desired; for example, when Move Next Op is set to No in Routing Maintenance (14.13.1).

- 1 Use Move Transaction (18.22.19).

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Line	2130
Qty to Move	10

- 2 Advanced to the WIP Lot Move Data frame.

Field	Data
Lot/Serial	L1
Quantity	10

- 3 Use WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13) to view the updated WIP lot/serial QOH balances.

## Reject Transaction

This function rejects WIP lot/serials from the output queue to the reject queue.

- 1 Use Reject Transaction (18.22.16) to run the reject process.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Line	2130
Qty Rejected	1

- 2 Advance to the WIP Lot Reject Data frame.

Field	Data
Lot/Serial	L2
Quantity	1

- 3 Use WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13) to view the updated WIP lot/serial QOH balances.

## Rework Transaction

Use this function to register the rework of WIP lot/serials. This action involves moving WIP lot/serials from the reject queue back to the output queue.

- 1 Use Rework Transaction (18.22.17) to register the rework.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Line	2130
Qty Reworked	1

- 2 Advance to the WIP Lot Rework Data frame.

Field	Data
Lot/Serial	L1
Reworked Lot/Serial	L1-R

- 3 Use Operation Trans Detail Inquiry (18.22.4.2) to review the operation transaction detail. It defaults to your last transaction (REWORK).

- 4 Advance to the WIP Lot Processed frame.

This frame lists the WIP lot/serial the transaction processed.

- 5 Advance to the WIP Lot Trace Data frame.

The data displayed shows the material lots consumed and produced as a result of the Rework Transaction. This tracing data is recorded only because the entered Reworked Lot/Serial value is different from the Lot/Serial value.

**Note** You can also use WIP Lot Non-Convert Trans Report (3.22.13.16) or WIP Lot Convert Trans Report (3.22.13.15) to display this information.

## Close Cumulative Order

Close the Advanced Repetitive cumulative order with which you have been working.

Use Cumulative Order Close (18.22.10) to close the cumulative order.

Field	Data
ID	[Your cumulative order ID]
To	[Your cumulative order ID]
End Effective	[End effective date of your cumulative order]
Transfer WIP	Yes
Update	Yes

**Note** If you do not know the end effective date of your cumulative order, you can run Cumulative Order Report (18.22.8) to find it.

This function closes your cumulative order and transfers its WIP lot/serials to the new cumulative order. The report output contains a list of the WIP lot/serials transferred to the new cumulative order.



Chapter 7

# **WLT with Repetitive**

## Course Overview

### WLT with Repetitive

In this section you learn how to:

- ✓ Identify key business considerations before setting up WLT
- ✓ Set up WIP Lot Trace
- ✓ Process WIP Lot Trace
- ✓ WLT with Work Orders/SFC
- ✓ WLT with Advanced Repetitive
- **WLT with Repetitive**

## Repetitive

### Repetitive

- Reworking Material
- Report Labor
- Handling Reject Material
- Tracing Scrap Material
- Repetitive Transaction History



WLT-REP-030

When processing a cumulative order in the Repetitive module, the system uses WLT data collection frames to collect tracing information when the cumulative order is WLT-controlled.

## Repetitive Rework Transaction

# Repetitive Rework Transaction

## WIP Lot Rework Data Frame

The screenshot displays a software window titled "Repetitive Rework Transaction" with a menu bar containing "Go To", "Actions", "Copy", "Print", and "Preview". The main content area shows the following data:

Employee: 00000001	BILL WHITEHEAD	Input Total:	0.0
Effective Date: 1/21/2009	Shift:	Site: train	Control Total: 0.0
Item Number: parent item	parent item		
Operation: 10	operation 10		
<b>WIP Lot Rework Data - Quantity to Work: 20 EA</b>			
Lot/Serial: 10-1	Reference:		
Reworked Lot/Serial: 10-1R	Reference:		
Department: 10	Assembly		
Qty Reworked:	20.0 EA	Conv:	1.0000
Actual Run Time: 0.0		Start Time: 00:00:00	
Rework Reason: PDWER	WONT MAINTAIN CHARGE	Elapsed or Stop Time: 00:00:00	
Earning Code: REG	REGULAR		
Transaction Number: 863			

The QAD logo is visible in the bottom left corner, and the text "WLT-REP-040" is in the bottom right corner of the interface.

Use Repetitive Rework Transaction to move previously rejected WLT-controlled material back into production. The following WLT data collection frames display:

- Destination Work Center and Machine
- WIP Lot Rework Data

## Repetitive Setup Transaction

# Repetitive Setup Transaction

### Labor WIP Lots Frame

The screenshot shows a software window titled "Repetitive Setup Transaction" with a menu bar containing "Go To", "Actions", "Copy", "Print", and "Preview". The main area displays the following information:

- Employee: 00000001 BILL WHITEHEAD Input Total: 0.0
- Effective Date: 1/21/2009 Shift: Site: train Control Total: 0.0
- Item Number: parent item operation 10 parent item
- Op: 10 operation 10
- Production Line: 1000
- Routing:
- Work Center: 1010
- Department: 10
- Actual Setup Time: 0.0
- Earning Code: REG REGU
- Transaction Number: 864

A "Labor WIP Lots" frame is overlaid on the interface, containing a table with 10 rows for "Lot/Serial:" entries. To the right of this frame, the "Start Time: 00:00:00" and "or Stop Time: 00:00:00" fields are visible.



WLT-REP-050

Use Repetitive Setup Transaction to report labor performed for WLT-controlled lot/serial numbers. Do this using this WLT data collection frame:

- Labor WIP Lots

## Repetitive Labor Transaction

# Repetitive Labor Transaction

## WIP Lot Output Queue Receipts Data

Employee: 00000001 BILL WHITEHEAD Input Total: 0.0  
 Effective Date: 1/21/2009 Shift: Site: train Control Total: 0.0

Item Number: parent item parent item  
 Operation: **WIP Lot Output Queue Receipt Data - Qty Processed: 10 EA**

Production Line:	Lot/Serial	Ref	Quantity
10	Lot1		10.0

Routing: Lot1  
 Work Center: 10  
 Department: 10 Assembly

Quantity Completed: 10.0 EA Conv: 1.0000  
 Qty Rejected: 5.0 Chg Attributes:

Modify Backflush:  Start Time: 00:00:00  
 Actual Run Time: 0.0 Elapsed or Stop Time: 00:00:00

Earning Code: REG REGULAR

Transaction Num	Lot/Serial	Ref	Quantity
Down Time	Lot1		10.0



WLT-REP-060

Use Repetitive Labor Transaction to report production activity (input, output, reject) at repetitive manufacturing operations. When WLT is active, the following WLT data collection frames display:

- Destination Work Center and Machine
- WIP Lot Input Queue Issue Data
- WIP Lot Output Queue Receipt Data
- WIP Lot Reject Data
  - Appears only if you enter a value in the Qty Reject field

## Repetitive Reject Transaction

# Repetitive Reject Transaction

## WIP Lot Reject Data Frame

The screenshot displays the 'Repetitive Reject Transaction' window. At the top, it shows 'Site: train' and 'Training Database Site' with an 'Effective Date: 1/21/2009'. Below this, there are fields for 'Item Number: parent item' and 'Operation: 10 operation 10 parent item'. The main section is titled 'WIP Lot Reject Data - Qty Rejected: 3 EA' and contains a table with the following data:

Lot/Serial	Ref	Code	Quantity
Lot 5			3.0

Below the table, there are fields for 'Department: 10 Assembly', 'Employee: 0000001 BILL WHITEHEAD', and 'Shift:'. A 'Quantity WIP:' field shows '0.0'. At the bottom, there is a 'Reje' table with a 'Modify' button and a search icon:

Lot/Serial	Ref	Code	Quantity
Lot 5			3.0



WLT-REP-070

Use Repetitive Reject Transaction to enter reject material information for an operation. The following WLT data collection frames display:

- WIP Lot Input Queue Issue Data
- WIP Lot Reject Data

## Repetitive Scrap Transaction

# Repetitive Scrap Transaction

**WIP Lot Reject Queue Issue Data**

The screenshot shows a software window titled "Repetitive Scrap Transaction" with a menu bar (Go To, Actions, Copy, Print, Preview). The main area displays the following information:

- Site: train Training Database Site Effective Date: 1/21/2009
- Item Number: parent item operation: 10 operation 10 parent item
- Product: **Wip Lot Reject Queue Issue Data - Qty Scrapped: 3 EA**
- Table:
 

Lot/Serial	Ref	Code	Quantity
lot8			3.0
- Department: 10 Assembly
- Employee: Shift:
- Qty Rejected: 3.0
- Qty Scrapped:
- Table:
 

Reas	Lot/Serial	Ref	Code	Quantity
Transaction Num	lot8			3.0

WLT-REP-080

Use Repetitive Scrap Transaction to scrap or remove WIP quantities of an operation. The following WLT data collection frame appears:


- WIP Lot Reject Queue Scrap Data

The system updates tracing history records and WIP lot/serial QOH balances.

## Repetitive Trans Detail Inquiry

# Repetitive Trans Detail Inquiry

01/21/09




Tran Nbr: 868 Output: page

Type: SCRAP  
 Transaction Date: 01/21/09 08:03:02      Cumulative Order: parent item  
 Effective Date: 01/21/09 Shift:                      ID: 406045  
 Employee:    Operation: 10

Item Number: parent item	Quantity Completed: 3.0
parent item	Qty Rejected: -3.0
Site: train Line: 1000	Reject Reason:
Work Center: 1010 Machine:	Qty Rework: 0.0
Department: 10	Rework Reason:
Std Setup Time: 0.0	Actual Setup Time: 0.0
Std Run Time: 0.0	Actual Run Time: 0.0
Labor Cost Std: 0.00	Labor Cost: 0.00
Burden Cost Std: 0.00	Burden Cost: 0.00
Subcontract Std: 0.00	Subcontract Cost: 0.00

WIP Lot Processed  
 Lot/Serial: lot8  
 Reference:


WLT-REP-090

Use Repetitive Trans Detail Inquiry to display WIP lot/serial information connected with an operation history record. Also displayed are:

- Tracing records associated with the operation history record
- WIP lot/serials recorded by a scrap, reject, rework, or adjust transaction

## Exercise: Use WIP with Repetitive

### Setup

Before proceeding, enable the system to use Repetitive. The first step is to report all expired or open Advanced Repetitive cumulative orders. The next step is to close them. The third step is to delete them. The last step is to set the control program so that Advanced Repetitive is no longer enabled.

- 1 Use Cumulative Order Report (18.22.8) to get a list of all cumulative orders and their end-effective dates.
- 2 Use Cumulative Order Close (18.22.10) to close the cumulative order for each different end effective date.

Field	Data
End Effective	[End effective date of the cumulative orders being closed]
Transfer WIP	No
Update	Yes

- 3 Use Cumulative Order Maintenance (18.22.6) to delete all cumulative orders.
- 4 Use Repetitive Control (18.22.24) to turn off Advanced Repetitive by setting Enable New Repetitive to No.

### Labor Transaction

Use this function to issue material and labor and record completions at the third operation. It is similar in concept to the Advanced Repetitive Backflush Transaction. Use Repetitive Labor Transaction (18.14) to record labor feedback.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Op	30
Production Line	2130
Qty Completed	3

- 5 Advance to the Issue Data Input frame and for the component item listed enter:

Field	Data
Quantity	3
Lot/Serial	30-1

- 6 Advance to the WIP Lot Input Queue Issue Data frame and enter the following:

Field	Data
Lot/Serial	30-1
Ref	[Blank]
Qty	3

- 7 Advance to the WIP Lot Output Queue Receipt Data frame and delete the default entry.
- 8 In the WIP Lot Output Queue Receipt Data frame, enter the following:

Field	Data
Lot/Serial	30-1
Ref	[Blank]
Qty	3

- 9 Use Repetitive Trans Detail Inquiry (18.4.2) to review the repetitive transaction detail. There are two Operation History records of type LABOR created. Select the first one.
- 10 The data displayed shows the material lots consumed and produced as a result of this transaction.  
**Note** You can also use WIP Lot Convert Trans Report (3.22.13.15) to display this information.

## Setup Transaction

Record setup labor against an operation. You are prompted to enter the lot numbers of the WIP to which this reported labor is associated.

This function is similar to Run Labor Transaction (18.22.14) and Setup Labor Transaction (18.22.15).

- 1 Use Repetitive Setup Transaction (18.13) to record setup labor against an operation.

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Op	10
Production Line	2130
Actual Setup Time	5

- 2 Advance to the Labor WIP Lots frame and enter 30-1 in the first Lot/Serial field.
- 3 Use Repetitive Trans Detail Inquiry (18.4.2) to review the repetitive transaction detail. It defaults to your last transaction (LABOR).
- 4 Review the WIP Lot Trace Data. The data displayed shows the WIP lot/serial entered with a quantity of 0.0 (zero). This tracing record is created to associate the reported labor with the “production” of the WIP lot/serial.

## Reject Transaction

This function lets you issue material and labor, record completions at an operation, and immediately disposition the completed material as rejected. The completed WIP material is placed in the Reject Queue of the operation, where it waits for disposition by the user (either scrap or rework).

- 1 Use Repetitive Reject Transaction (18.17) to record the completions.

Field	Data
Site	10-2--
Item Number	02001
Operation	30
Production Line	2130
Employee	[Use your Down Arrow to select the first record]
Qty Reject	3

- 2 Advance to the Issue Data Input frame and for the component item listed enter:

Field	Data
Quantity	3
Lot/Serial	30-1

- 3 Advance to the WIP Lot Input Queue Issue Data frame, enter the following:

Field	Data
Lot/Serial	30-1
Ref	[Blank]
Qty	3

- 4 Advance to the WIP Lot Reject Data frame, delete any default entry, and enter the following:

Field	Data
Lot/Serial	30-1
Ref	[Blank]
Qty	3

- 5 Use Repetitive Trans Detail Inquiry (18.4.2) to review the repetitive transaction detail. There are two Operation History records created of type LABOR. Select the first one.
- 6 Review the WIP Lot Trace Data. The data displayed shows the material lots consumed and produced as a result of this transaction. Select the second one.
- 7 Review the WIP Lot Processed. The data displayed shows the rejected WIP lot/serial.  
**Note** You can also use WIP Lot Non-Convert Trans Report (3.22.13.16) and WIP Lot Convert Trans Report (3.22.13.15) to display this information.
- 8 Use WIP Lot Inventory Status Report (3.22.13.13) to run the WIP Lot Inventory Status Report by entering the cumulative order ID in the ID and To fields. You can use the Lookup icon to select the cumulative order ID.
- 9 Review the report. View the rejected WIP lot in the operation's reject queue.

## Rework Transaction

Change the disposition of rejected material back to good material. For WIP lot/serials, this action involves moving them from the reject queue of the reporting operation to the input queue of the following operation. If at the last operation, it involves moving to finished material inventory.

- 1 Use Repetitive Rework Transaction (18.16) to change the rejected material back to good material. Enter the following:

Field	Data
Employee	[Use your Down Arrow to select the first record]
Site	10-200
Item Number	02001
Operation	10
Production Line	2130
Qty Rework	3

- 2 Advance to the WIP Lot Rework Data frame. Enter 30-1 in the Lot/Serial field and in the Reworked Lot/Serial field enter 30-1R.
- 3 Use Repetitive Trans Detail Inquiry (18.4.2) to review the repetitive transaction detail. It defaults to your last transaction (LABOR).
- 4 Review the WIP Lot Processed frame. This frame lists the WIP lot/serial this transaction processed.
- 5 Review the WIP Lot Trace Data frame. The data displayed shows the material lots consumed and produced as a result of your rework transaction. This tracing data is recorded only because the entered Reworked Lot/Serial value is different from the Lot/Serial value.

**Note** You can also use WIP Lot Non-Convert Trans Report (3.22.13.16) and WIP Lot Convert Trans Report (3.22.13.15) to display this information.

## Scrap Transaction

Use this function to scrap material previously rejected. For WIP lot/serials, this action means reducing their QOH balances at the reject queue of the reporting operation.

- 1 Use Repetitive Scrap Transaction (18.18) to scrap the rejected material.

Field	Data
Site	10-200
Item Number	02001
Operation	10
Production Line	2130
Qty Scrapped	3

- 2 Advance to the WIP Lot Reject Queue Issue Data frame. Click the Lookup icon to display a list of WIP lot/serials at that operation. Select one and enter 3 in Qty.

**Note** You can enter a non-existent WIP lot/serial if necessary.

- 3 Use Repetitive Trans Detail Inquiry (18.4.2) to review the repetitive transaction detail. It shows your last transaction (SCRAP) as the default.

- 4 Review the WIP Lot Processed frame. This frame shows the WIP lot/serial this transaction scrapped. Notice there is one Operation History record written for each WIP lot/serial scrapped.

**Note** You can also use WIP Lot Non-Convert Trans Report (3.22.13.16) to display this information.