QAD Enterprise Applications
Standard Edition

Training Guide

WIP Lot Trace

70-2963-2012SE
QAD 2012 Enterprise Applications
Workspace: Training
June 2012

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QAD Inc.
100 Innovation Place
Santa Barbara, California 93108
Phone (805) 566-6000
http://www.qad.com

Contents

Change Summary

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

Date/Version	Description	Reference
June 2012/2012SE	Rebranded for QAD 2012SE	

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
  - 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 designed to be taught in one day.

Virtual Environment Information

The hands-on exercises in this book should be used with the latest Standard Edition learning environment in the Training workspace.

When prompted to log in, specify *demo* for user ID and *qad* for password.

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 or use a powerful cross-document search, which finds all documents with your search terms and lets you refine the search by book type, product suite or module, and date published.

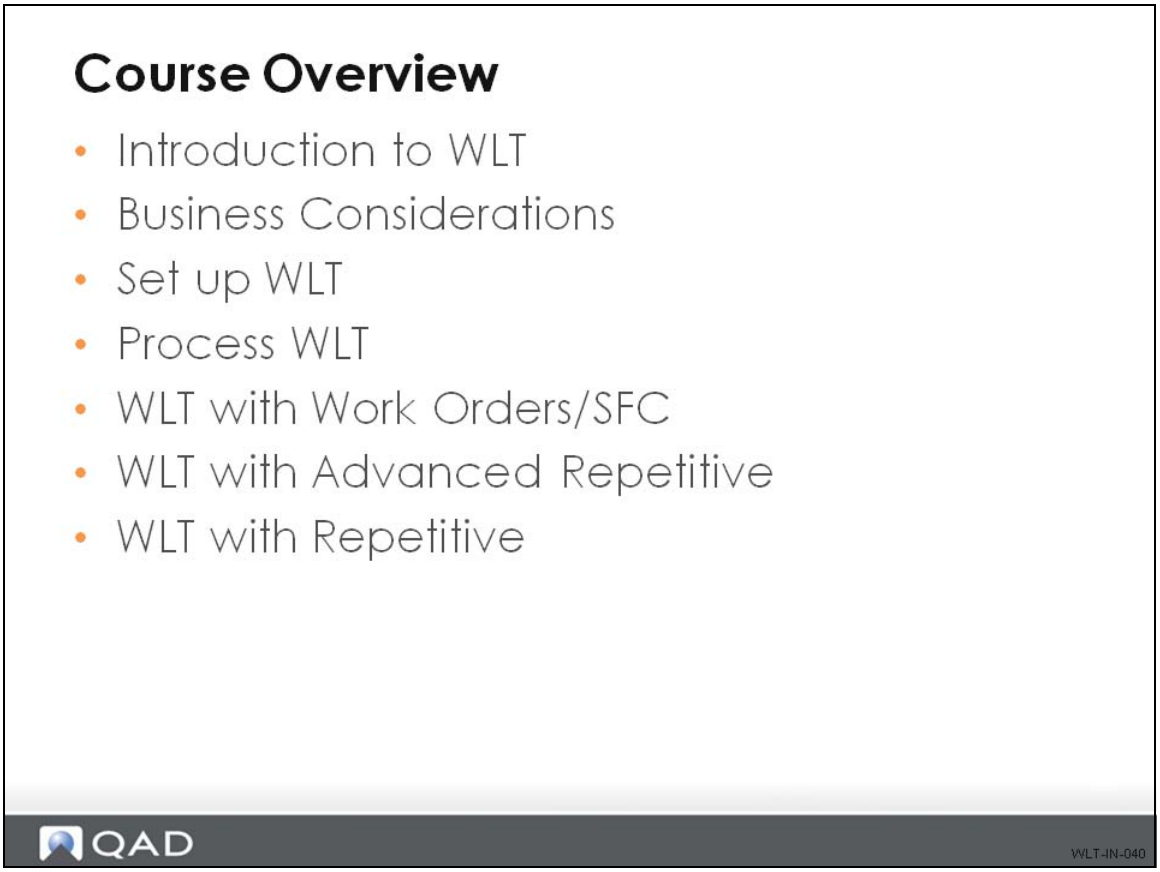
QAD Support

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

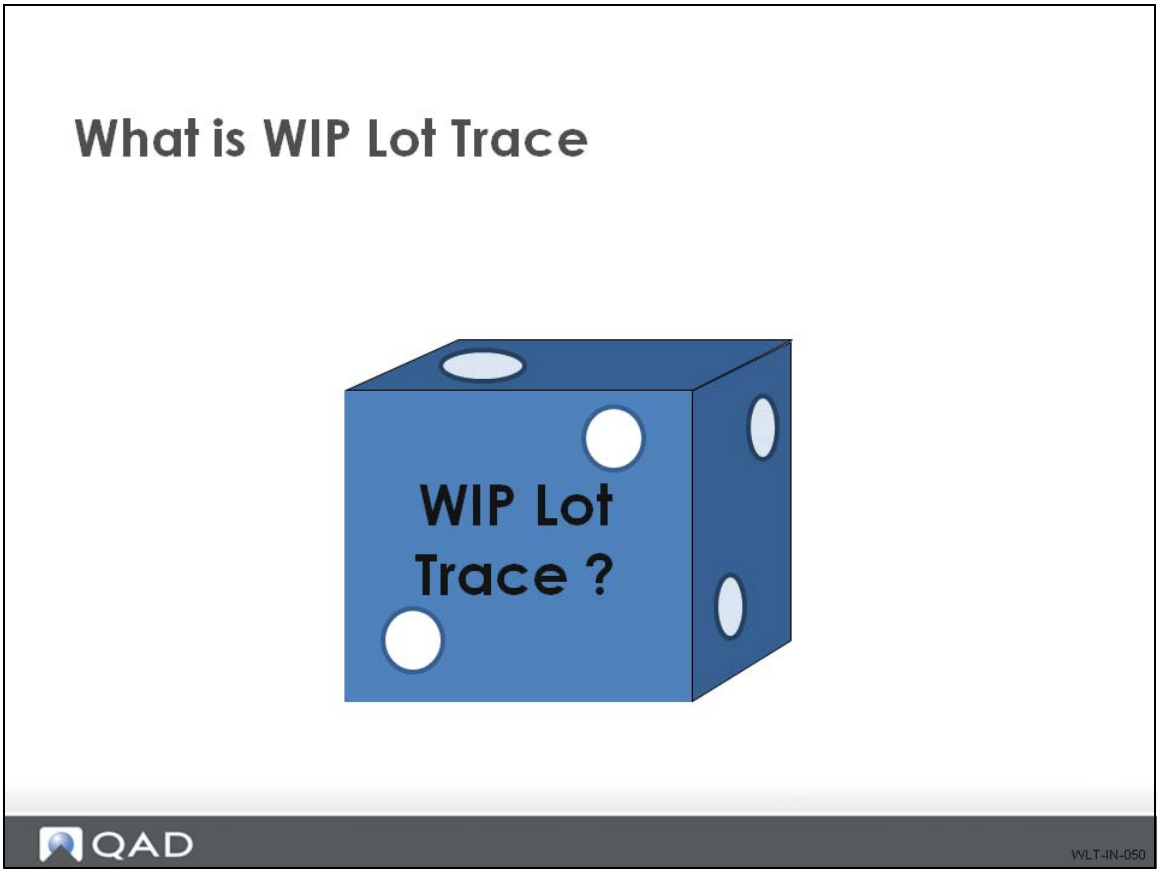
Chapter 1

Introduction to WLT

Course Overview



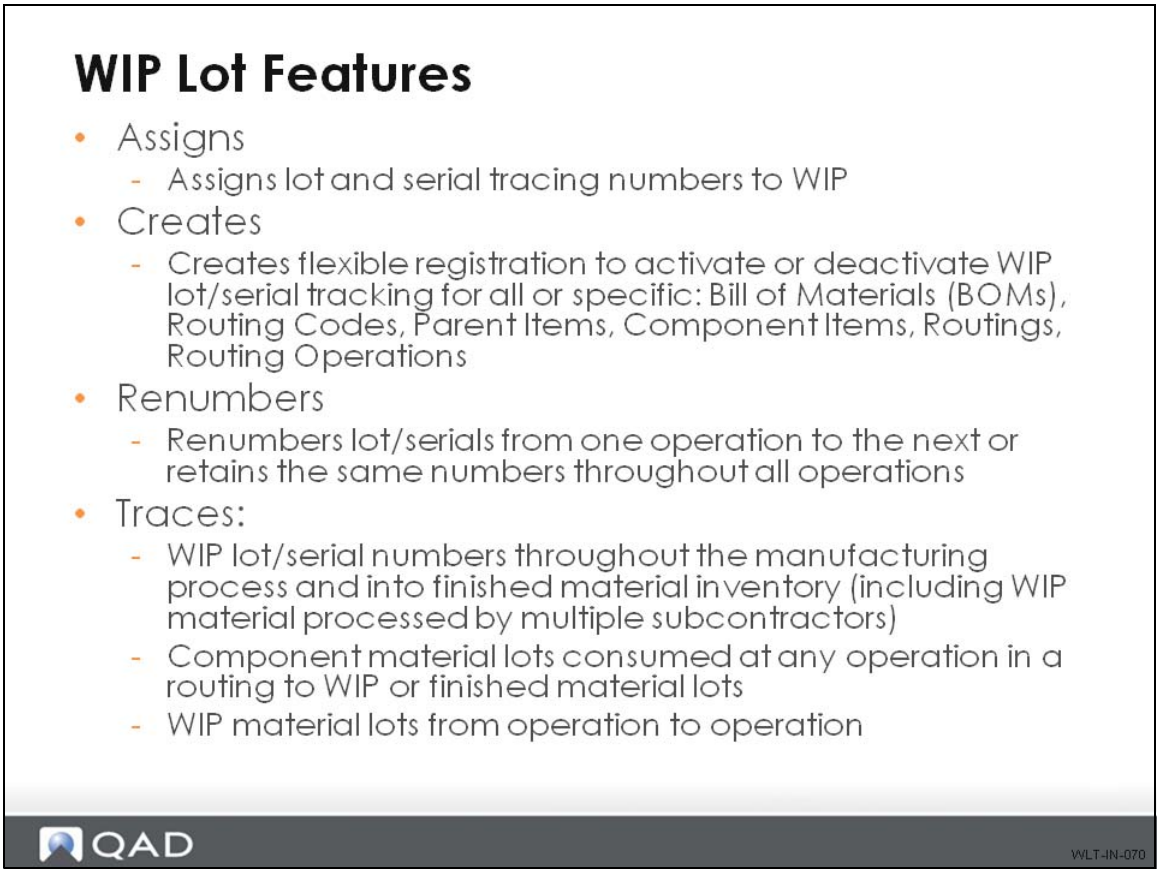
What is WIP Lot Trace?



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

WIP Lot Features



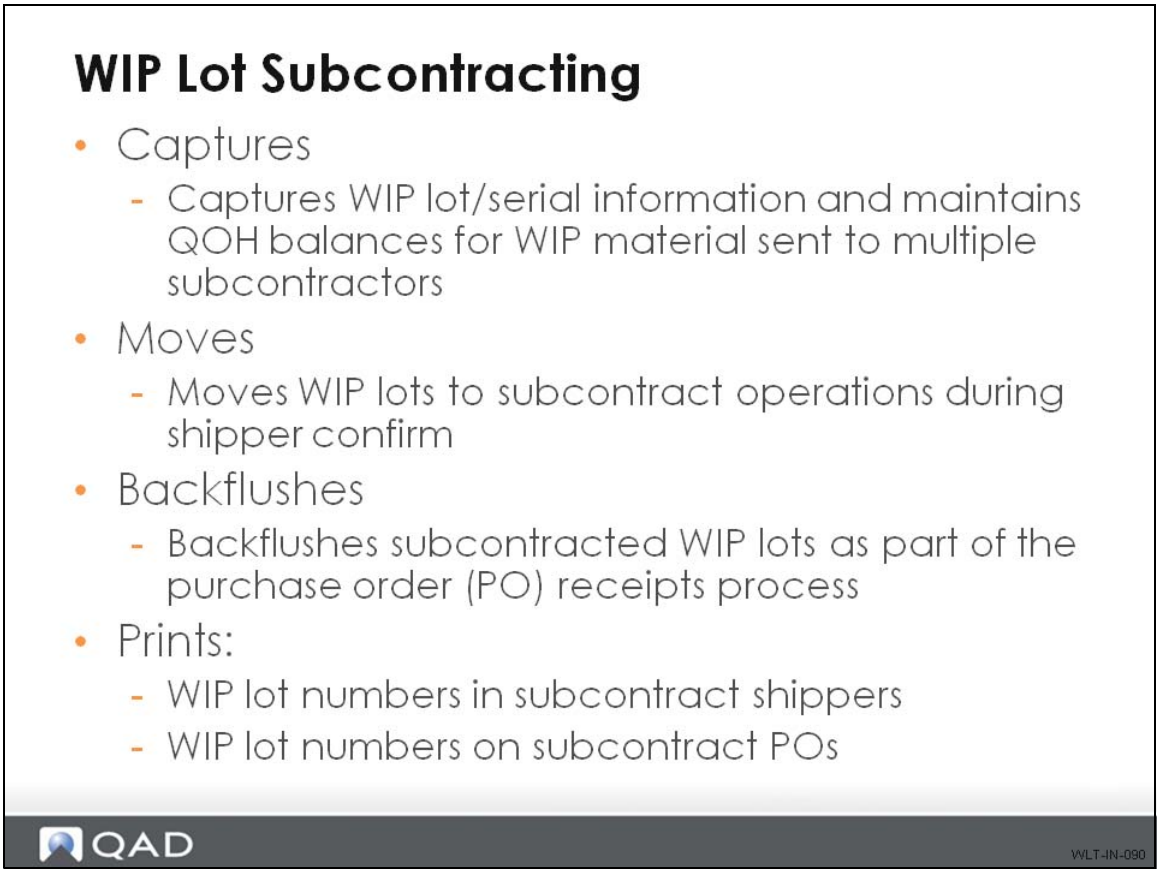
WIP Lot Features (continued)

- 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

QAD

WLT-IN-080

WIP Lot Subcontracting



Why Was WIP Developed?

Many companies need to keep detailed records of the:

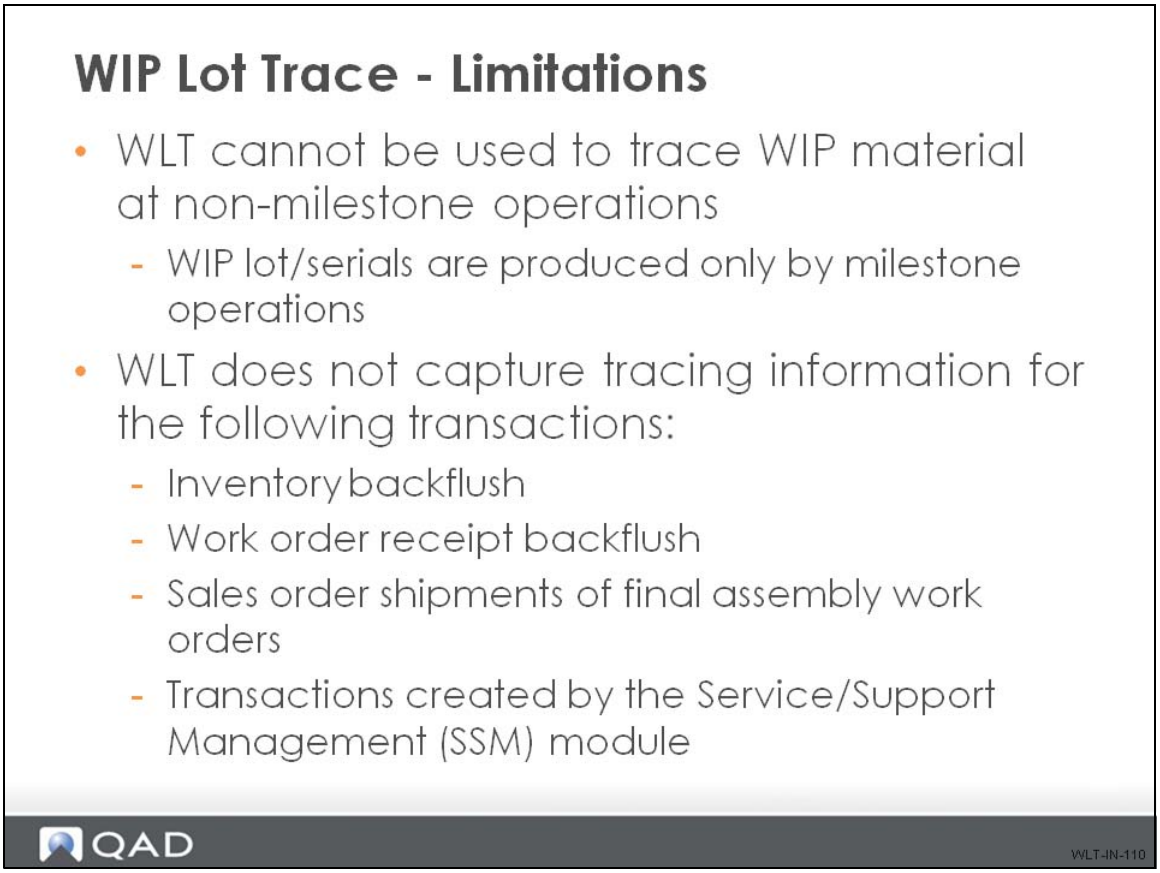
- Raw materials they receive from their suppliers
- WIP that consumes those raw materials
- Finished items produced from WIP

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

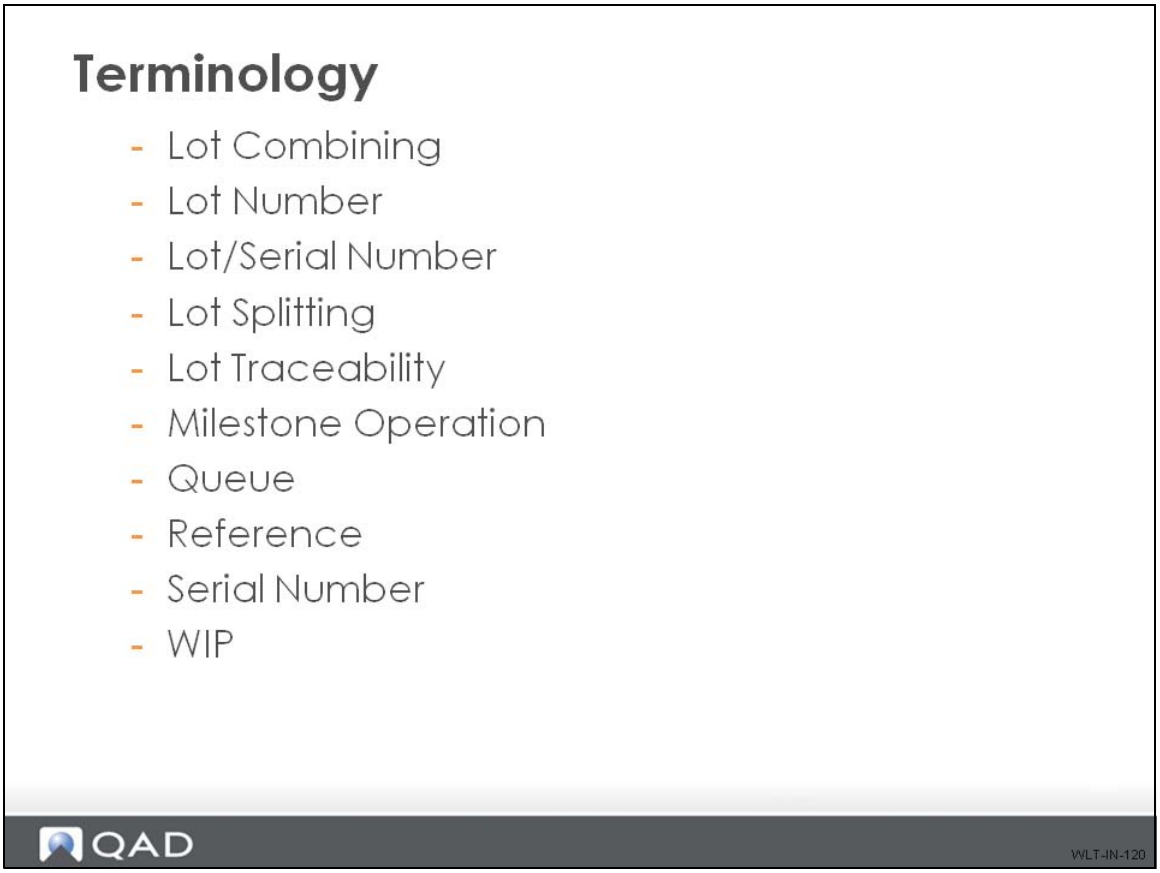
Some manufacturing environments require the ability to trace WIP to comply with government and customer safety requirements and regulations.

- ADG customers needed it
- Legal requirements

WIP Lot Trace - Limitations



Terminology



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, up to completely processed material awaiting final inspection and acceptance as finished product.

Supported Operations

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)

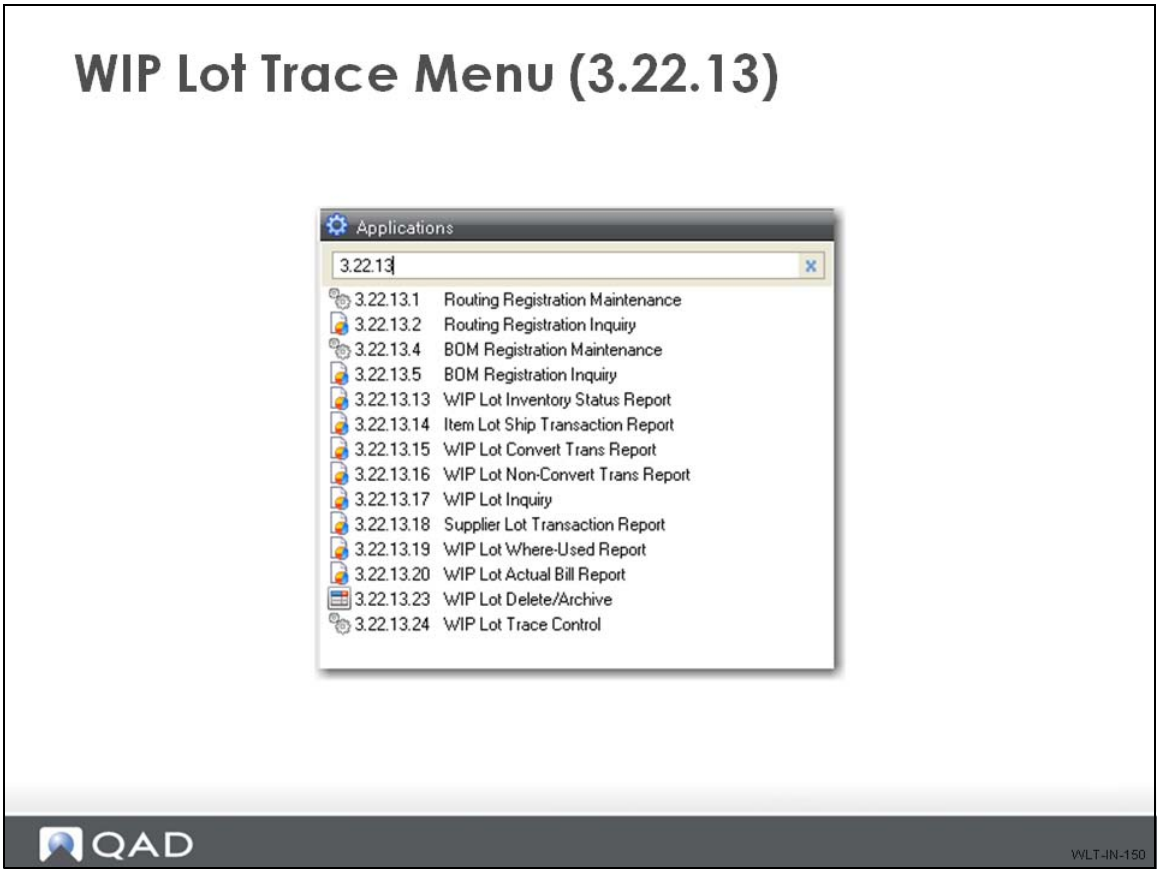
Work Orders

- 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, you should be aware of the following:

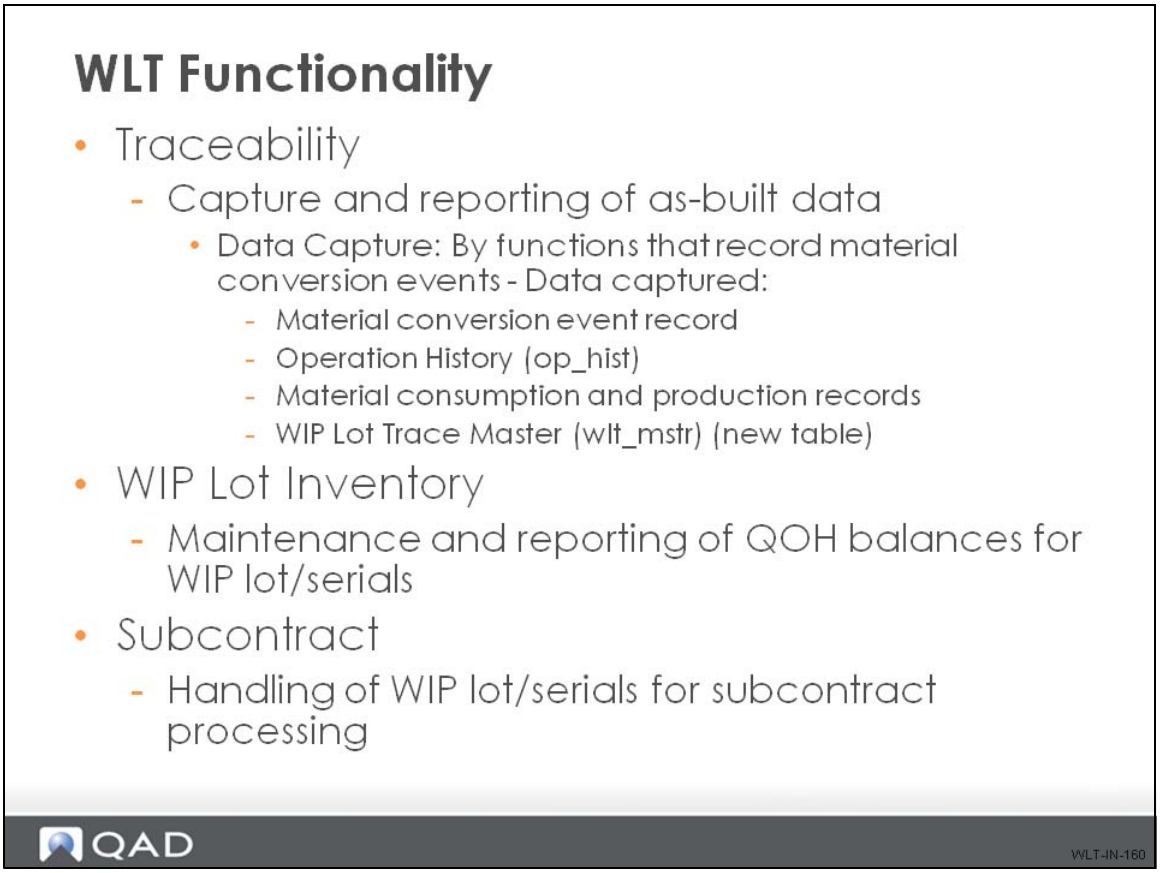
- Work Order Receipt Backflush (16.12) is disabled because it does not let you report production on an operation per operation basis
- You must specify an operation when processing a receipt, issue, or labor transaction for a WLT controlled work order

WIP Lot Trace Menu (3.23.13)

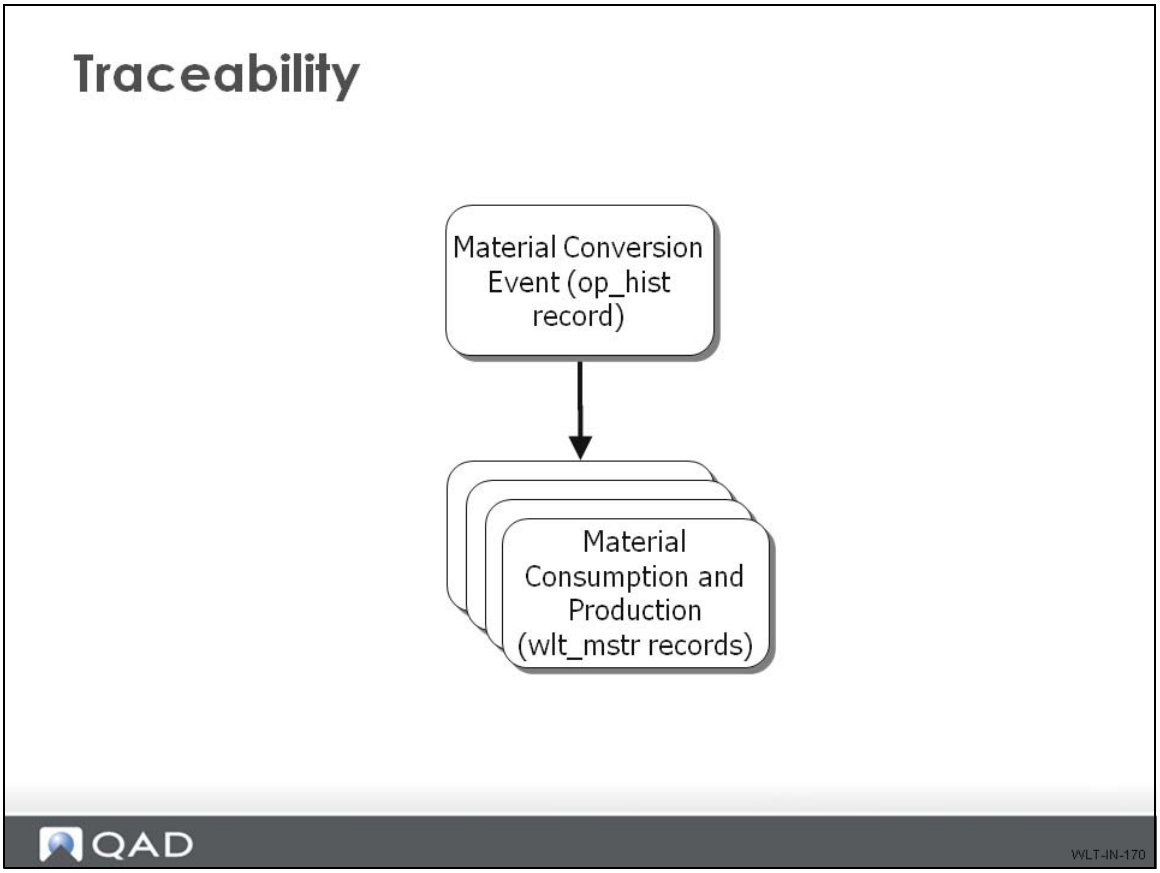


Use the WIP Lot Trace Menu to access specific WLT functions. You turn on WLT by setting the Enable WIP Lot Trace field to Yes in WIP Lot Trace Control program (3.22.13.24).

WLT Functionality

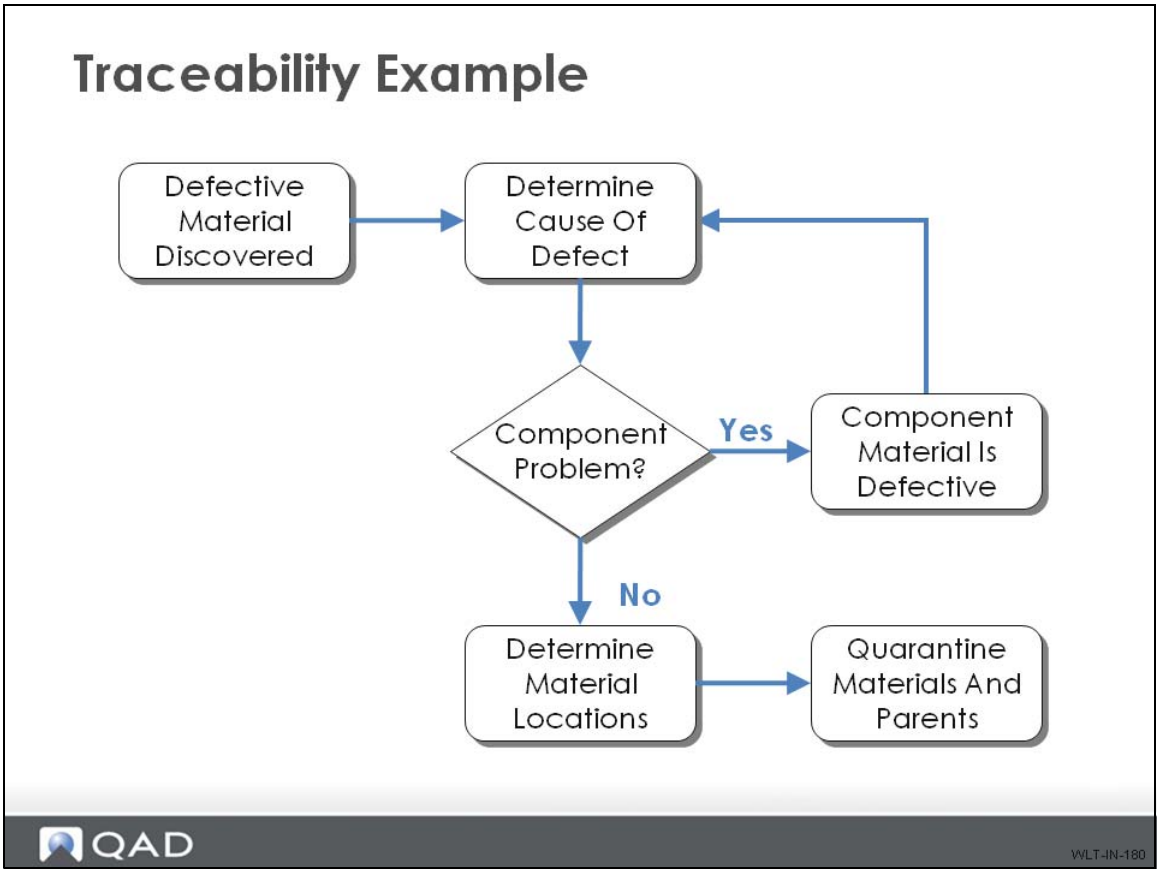


Traceability

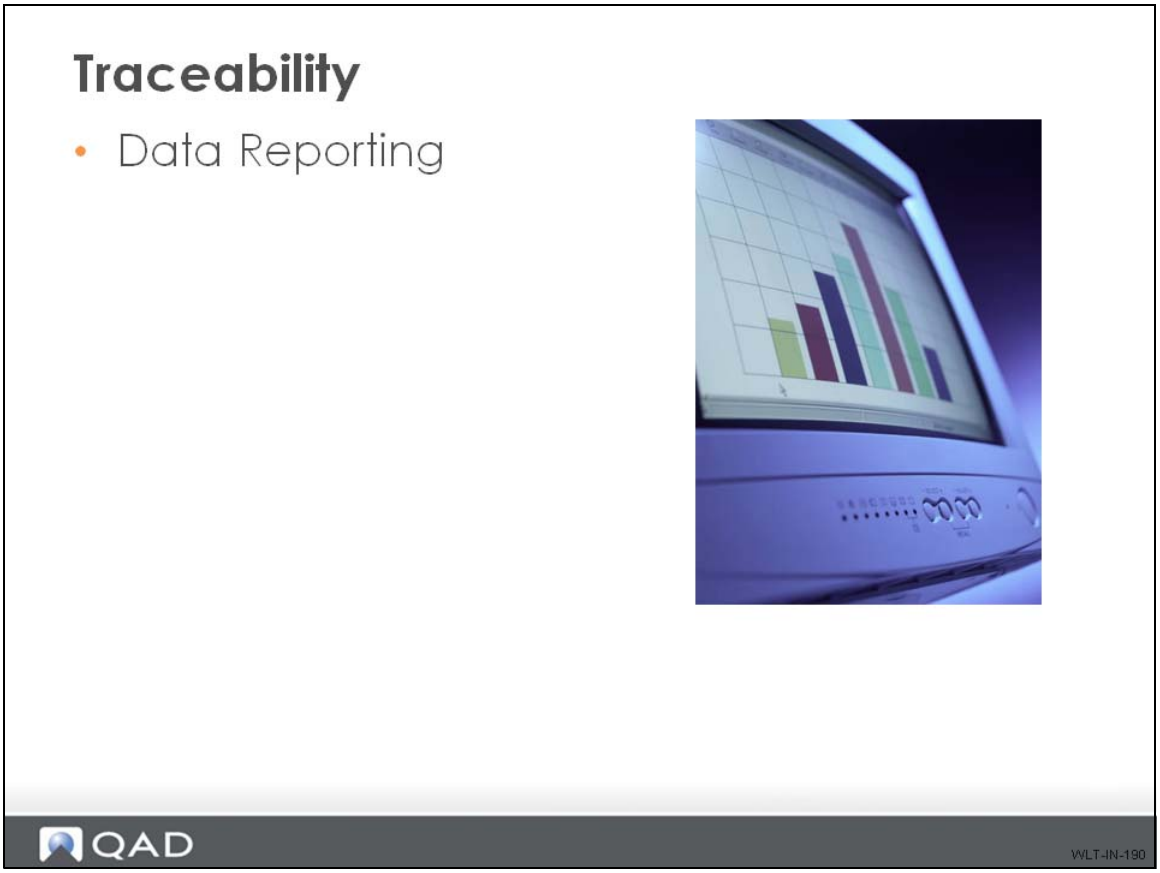


The above graphic shows an example of captured data.

Traceability Example



Traceability: Data Reporting



- 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

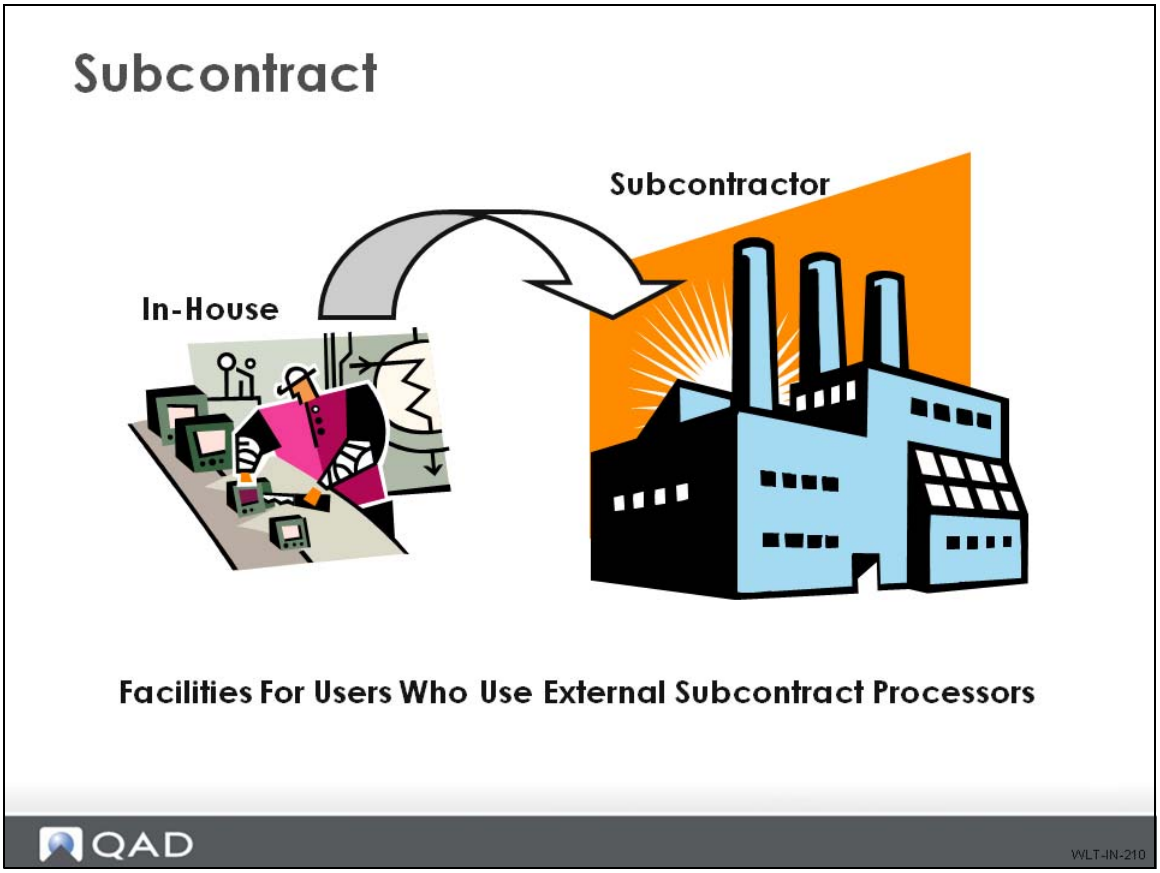
Data Maintenance

- QOH balances maintained by:
  - WIP lot/serial
  - Operation
  - Queue
  - Work center
  - Machine
- Similar to inventory QOH balances
- Updated by material conversion functions (e.g., Backflush) and other functions (e.g., 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

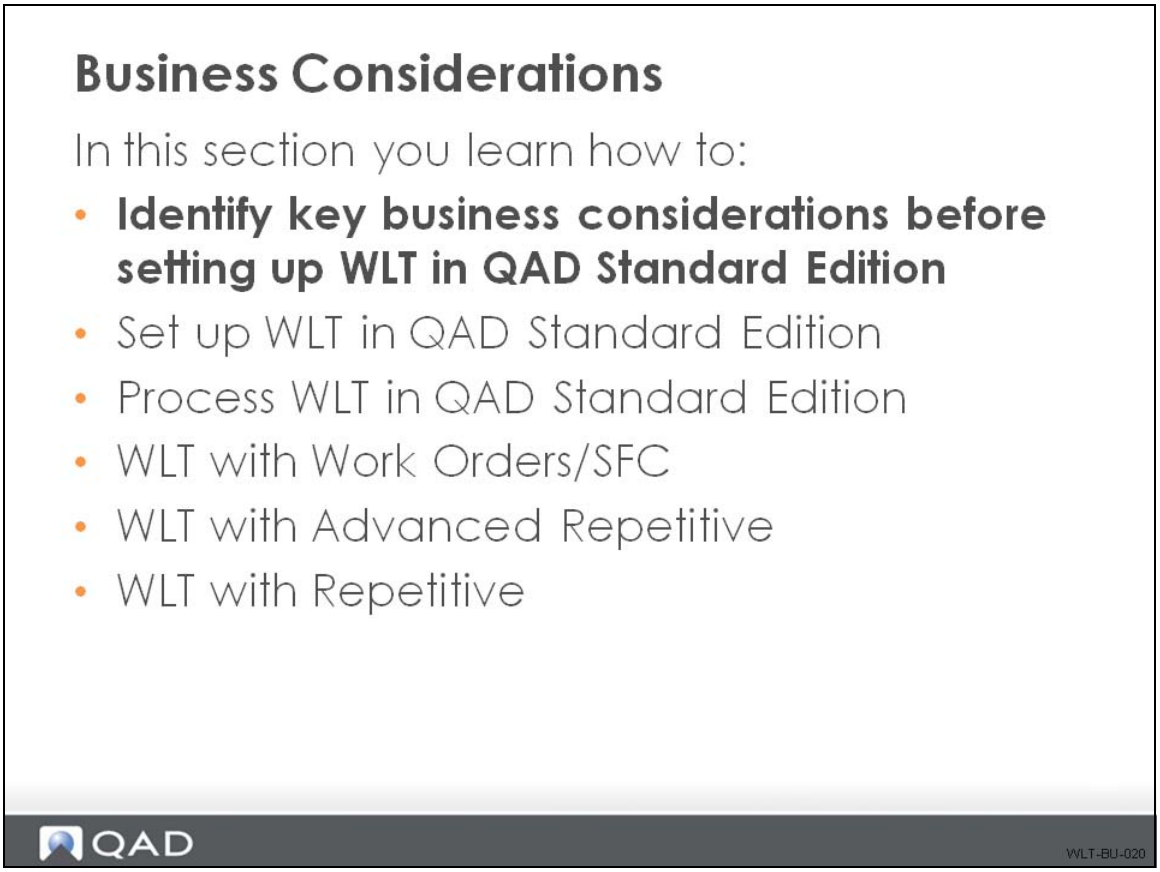
Review Questions

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

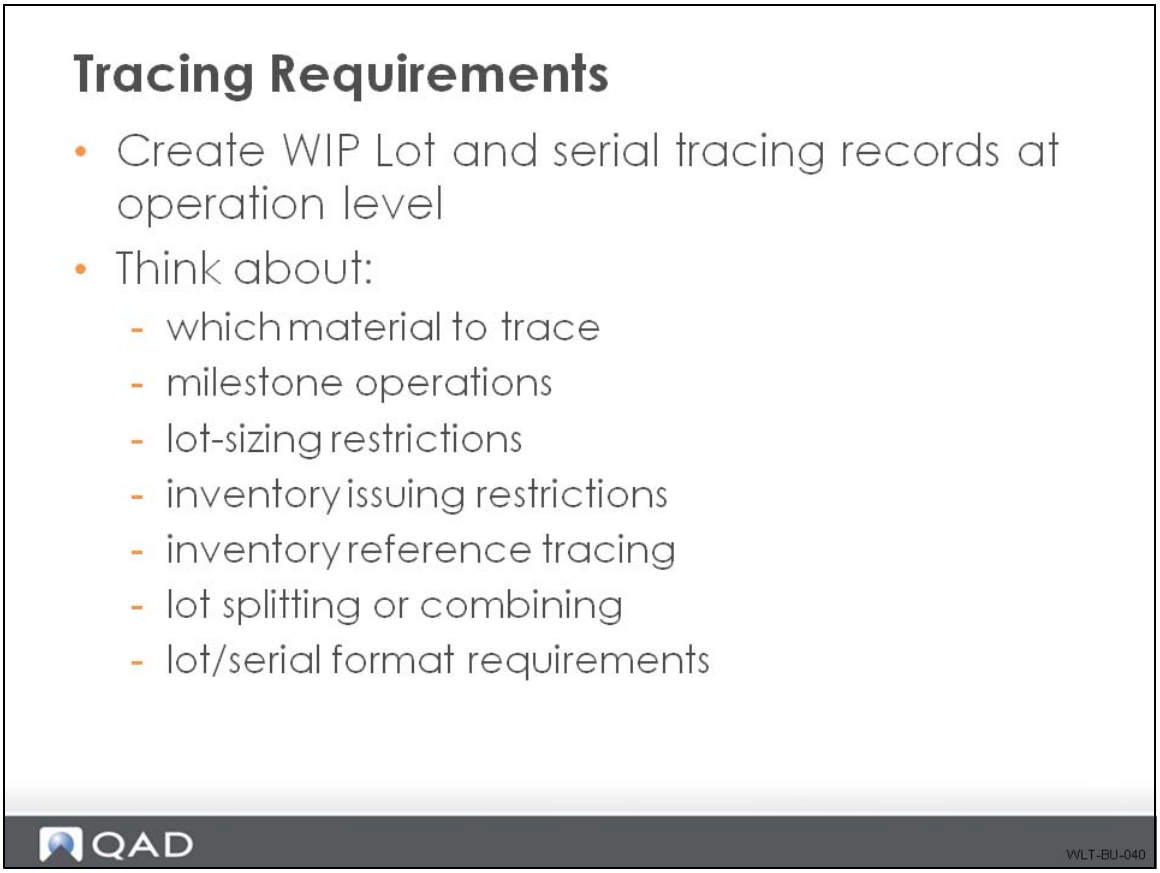
Course Overview



Considerations

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

Tracing Requirements



Definition

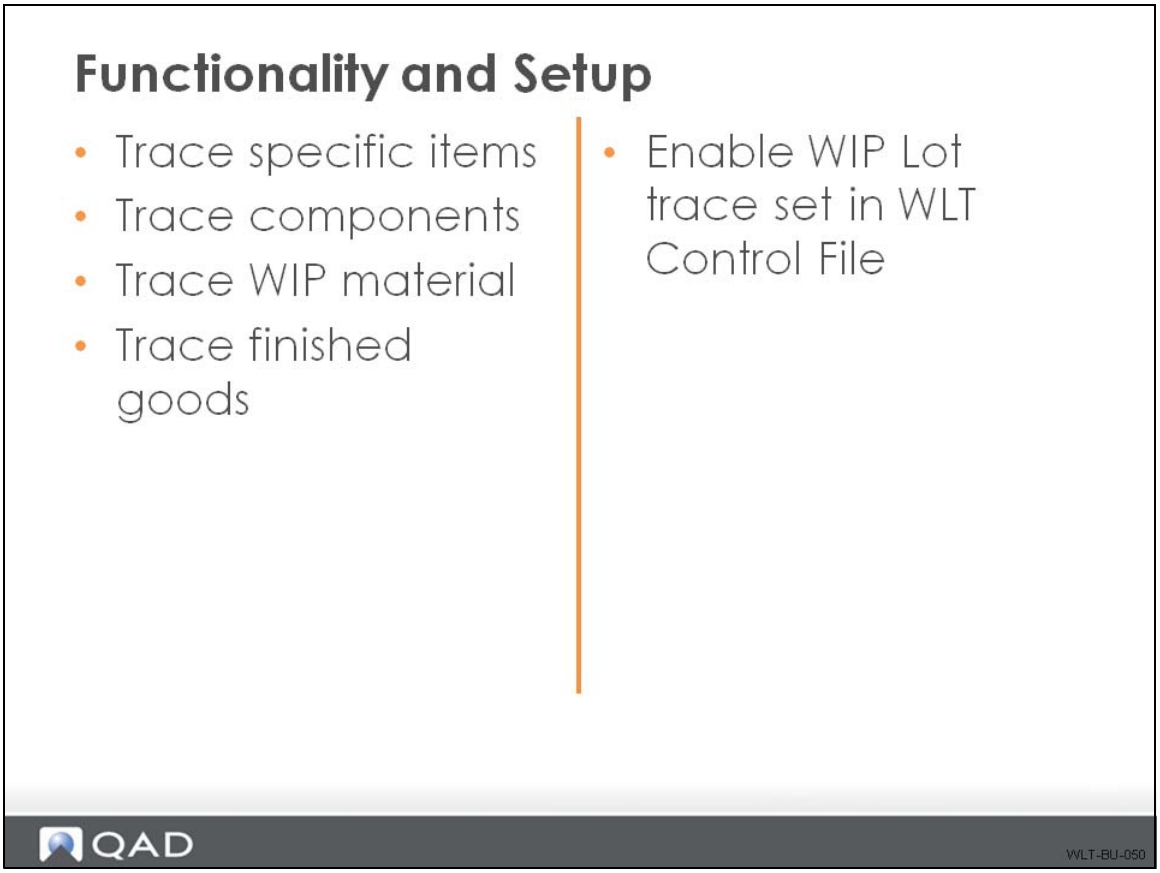
WLT allows you to create WIP lot and serial tracing records at the operation level whenever registered resources are consumed or produced. However, exactly what tracing records are created is determined by how you define your tracing requirements. In other words, you need to determine exactly how much tracing your manufacturing environment requires. Once you determine that, you can set up or define your individual tracing requirements.

What to Consider?

- Decide which material to trace (which routings and BOMs consume components), and create the WIP material you need to trace
- Know the milestone operations
- If there are any lot-sizing restrictions in your manufacturing environment, list these restrictions, organized by 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, and if so, clearly defined 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

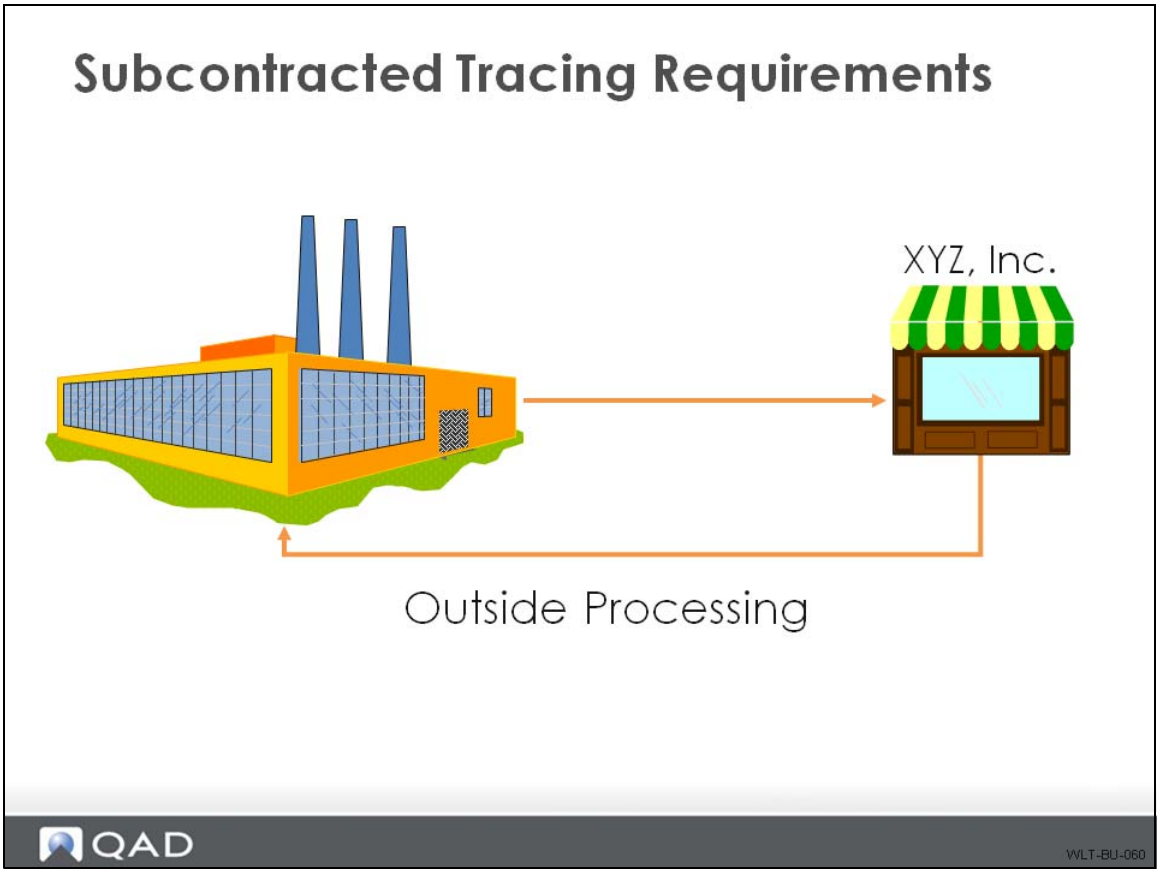


- Trace specific items throughout the manufacturing process
- Trace component and WIP material consumed in the manufacturing of parent items
- Trace component, WIP material, and finished goods based on parent items, product structures, and routings

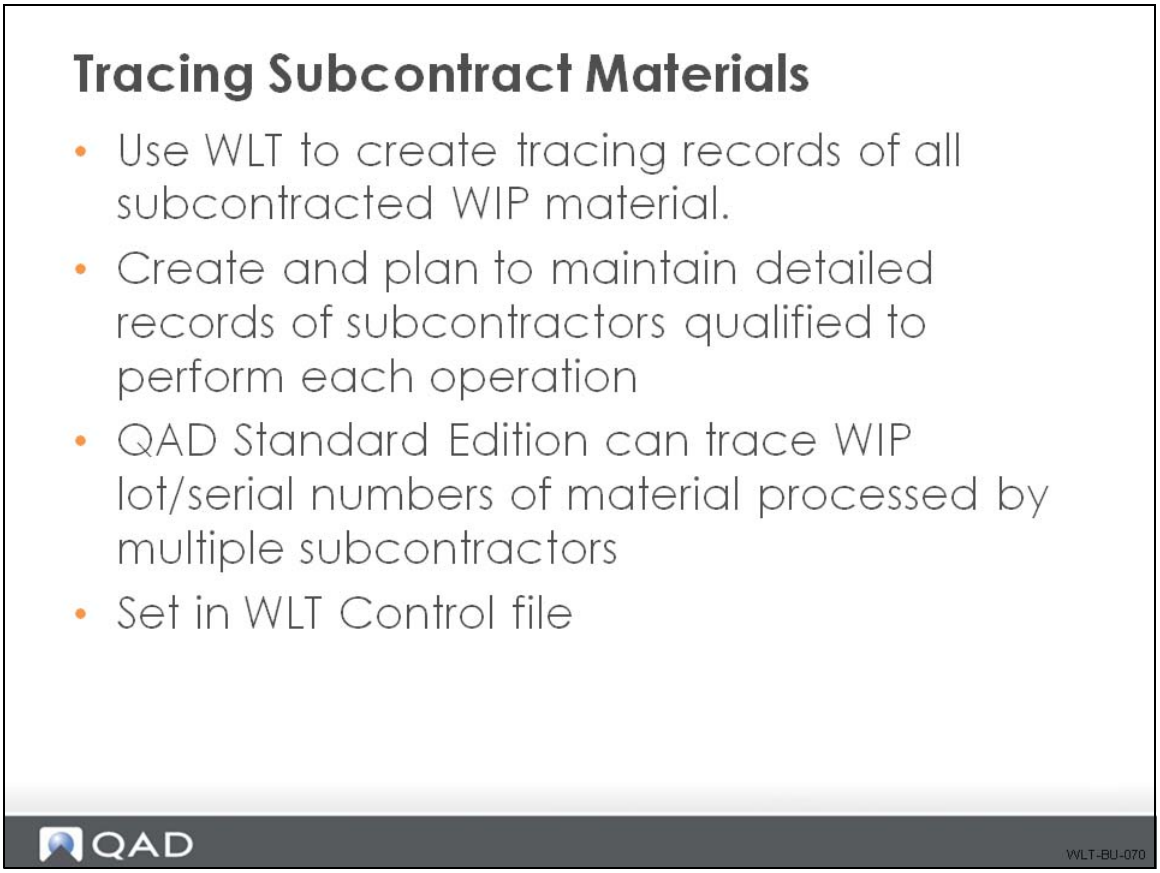
Setup Implications

- WLT functionality needs to be turned on by setting the Enable WIP Lot Trace field to Yes in WIP Lot Trace Control program. (3.22.13.24)

Subcontracted Tracing Requirements



Tracing Subcontract Materials



- WLT functionality needs to be turned on by setting the Enable WIP Lot Trace field to Yes in WIP Lot Trace Control program. (3.22.13.24)
- 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

Review

Review Questions

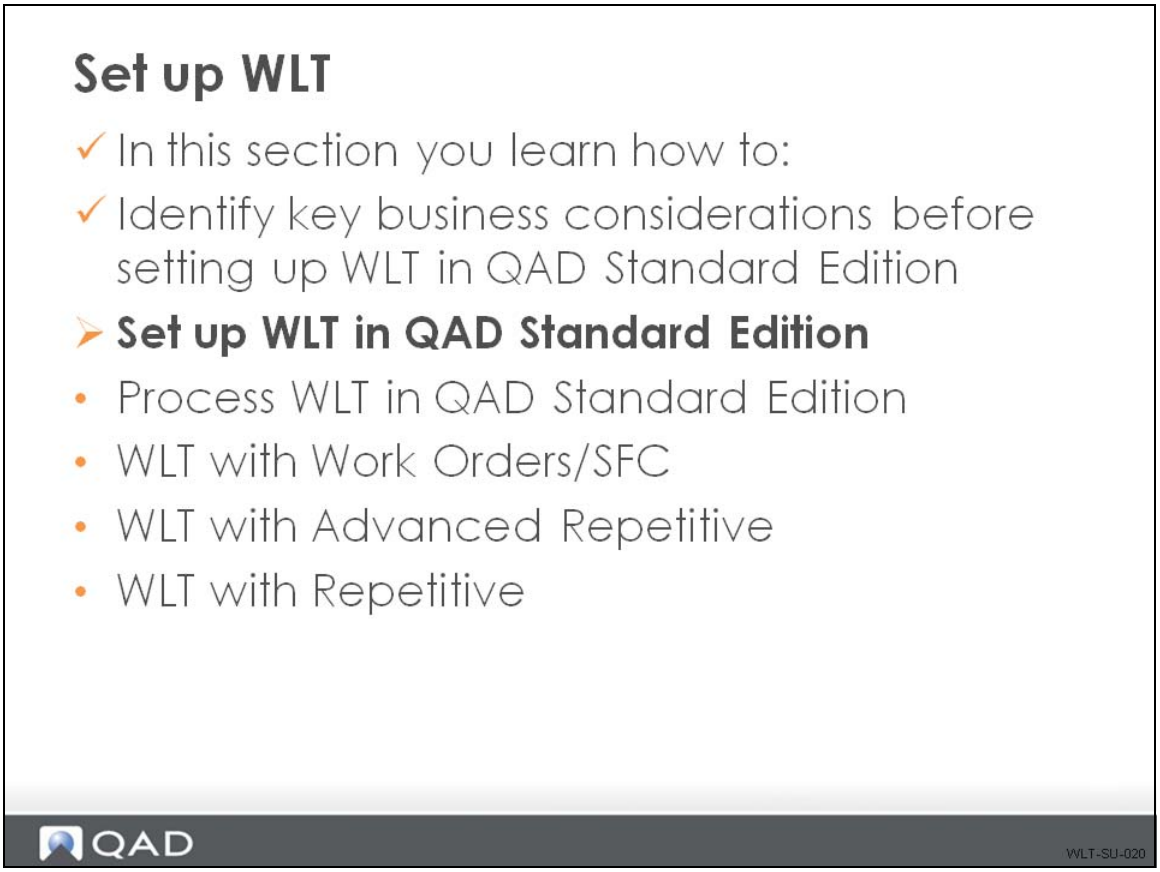
1 What kinds of items should be traced? Not traced?

2 How do you identify WIP Lot Trace items on the plant floor?

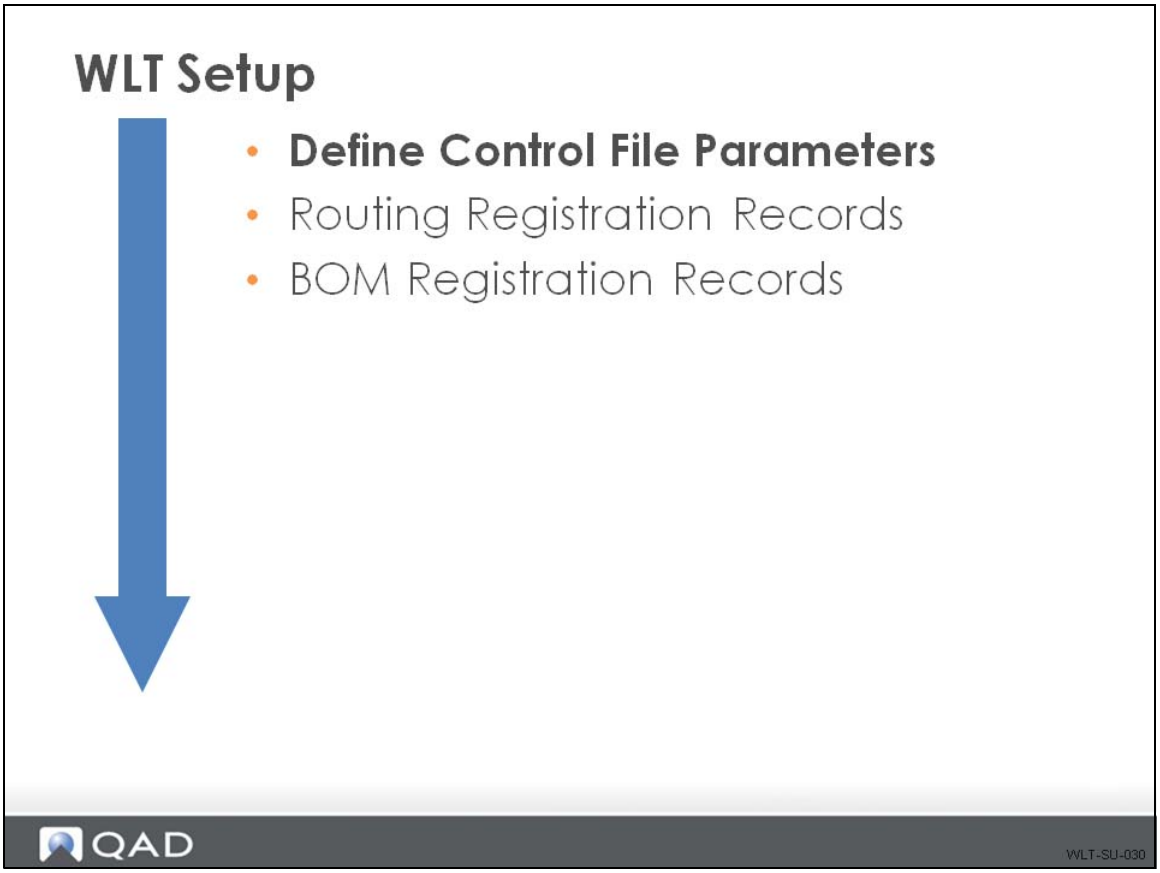
Chapter 3

Set Up WLT

Course Overview

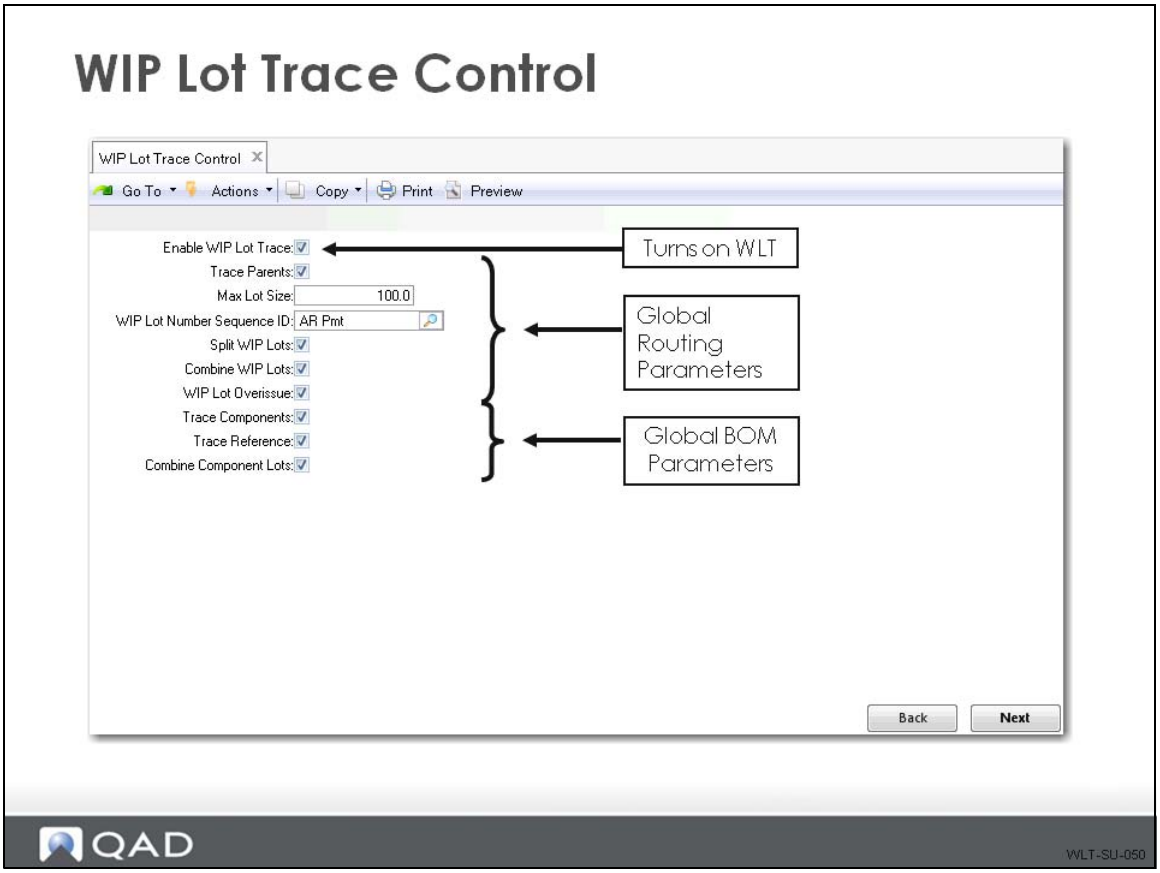


WLT Setup



This illustration is a suggested setup sequence of master files for the WLT module which is based on information that flows from one master file to another and prerequisites that need to be accomplished before setting up a file.

WIP Lot Trace Control (3.22.13.24)

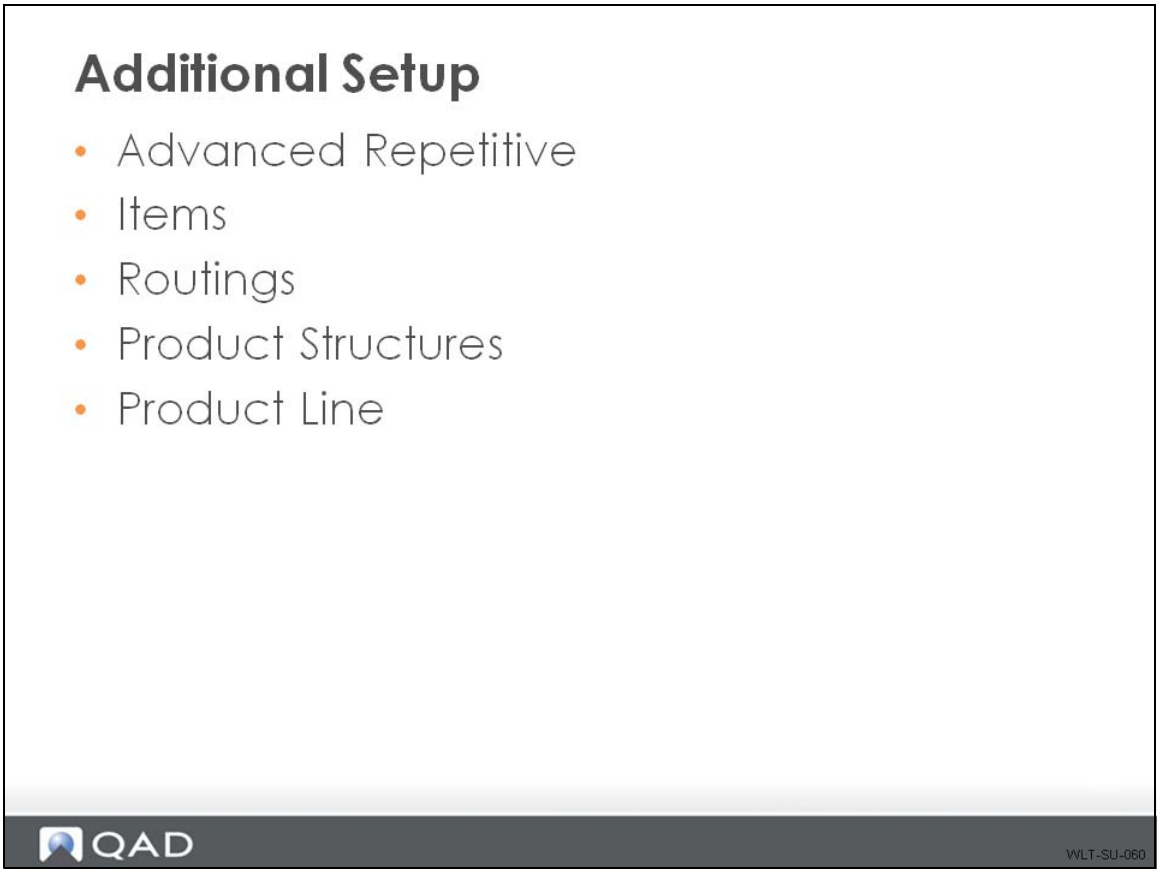


Use WIP Lot Trace Control program to enable the WLT module and to set the parameters which will apply to all routings and BOMs using WLT in your manufacturing environment.

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
- Appears in existing (Standard) Repetitive, Advanced Repetitive, Work Orders, Shop Floor Control, and Purchasing programs

Additional Setup



Exercise: Initial Setup

Important The data used in these exercises might not be the same as the data shown in the screen captures in this lesson. In an exercise, if a field is not listed, you can accept the default value or leave it blank.WIP Lot Trace Control program

Default Site

1 Use Inventory Control (3.24) to set or verify the default site code to the site Train.

GL Calendar Period

2 Use GL Calendar Maintenance (25.3.4) to add or verify a GL Calendar period that covers the time period of the training event. Enter the current year, if a calendar is not found enter period 1, and give it a date range that covers the entire year.

Inventory Locations

Use Location Maintenance (1.1.18).

3 For site Train add or verify location 100, give it a description of Raw Material and a status code of Y-Y-N, use the lookup icon to see available status codes.

4 For site Train add or verify location 200, give it a description of Finished Goods and a status code of Y-Y-N.

Reason Code Maintenance (36.2.17)

5 Create a Reason Code Type = ESIG with a Reason Code = ESIG. This will be used as the electronic signature for labor reporting.

WIP Lot Trace Control

Before you can use the WIP Lot Trace module you must enable it by turning on global control variables.

6 Make sure the control settings are set as follows:

Use WIP Lot Trace Control (3.22.13.24)

Field	Data
Enable WIP Lot Trace	Yes
Trace Parents	Yes
Split WIP Lots	Yes
Combine WIP Lots	Yes
WIP Lot Overissue	Yes
Trace Components	Yes
Trace Reference	Yes
Combine Component Lots	Yes

Enable Advanced Repetitive

Important The following exercise requires Advanced Repetitive be enabled.

1 Check the setting of the Enable New Repetitive field. If it is set to Yes, set to No.

Use Repetitive Control (18.22.24)

If you get the message “You must run rewocl.p before using this module. Please re-enter.” do the following:

a Run Cumulative Order Accounting Close (18.9), accepting the defaults.

b Run Cumulative Order Maintenance (18.6). Using your Arrow keys, locate all cumulative orders and delete them.

c Change the Enable New Repetitive field to Yes.

Use Repetitive Control (18.22.24)

Set Up Items

This item data will be used in all of the following exercises.

1 Create a parent item and four component items, using the following settings for each item. Use Item Number 500 for the parent item and 100, 200, 300, and 400 for the components.

Use Item Master Maintenance (1.4.1)

Field	Data
Item Number	<your entry>
Description	<parent Item, Component1.>
Prod Line	<Press the lookup key to display a list of product lines.>
Lot/Serial Control	L
Site	Train
Location	200 (for parent)
Purchase/Manufacture	M

2 Repeat step 1 for each of the four component items, but use 100 for location and P for Purchase/Manufacture data.

Set Up Work Centers and Machines

Use Work Center Maintenance (14.5).

For Work Center 1010 add machines 10, 20, 30 and 40.

Set Up Routings

1 Create a routing for the parent item using the following settings:

Use Routing Maintenance (14.13.1)

Field	Data
Routing Code	<your parent item>
Operation	10

Field	Data
Work Center	1010
Machine	10
Description	Operation 10
Milestone Operation	Yes
Move Next Op	Yes

Using the same routing code, add a second operation with the following settings:

Field	Data
Operation	20
Work Center	1010
Machine	20
Description	Operation 20
Milestone Operation	Yes
Move Next Op	Yes

Add the third operation using the following settings:

Field	Data
Operation	30
Work Center	1010
Machine	30
Description	Operation 30
Milestone Operation	Yes
Move Next Op	Yes

Add the fourth and last operation using the following settings:

Field	Data
Operation	40
Work Center	1010
Machine	40
Description	Operation 40
Milestone Operation	Yes
Move Next Op	Yes

Set Up Product Structure

1 Create a product structure for the parent item using the following settings:

Note In QAD SE several programs including Product Structure Maintenance give you a choice of user interface. In some cases, as here, this presents very different screen handling characteristics. Right mouse click the menu item (13.5) select Properties, select Program, note the Open with: field, select Desktop for the usual field driven format described in the exercise. Select .NET User Interface for a drag and drop format. While you can experiment with the .NET UI, the Desktop interface is recommended for the exercises in this course.

Use Product Structure Maintenance (13.5)

Field	Data
Parent Item	<your parent item number>
Component Item	component item 1
Qty per	1
Op	10

Add the second component item using the following settings:

Field	Data
Component Item	component item 2
Qty per	1
Op	20

Add the third component item using the following settings:

Field	Data
Component Item	component item 3
Qty per	1
Op	30

Add the fourth and last component item using the following settings:

Field	Data
Component Item	component item 4
Qty per	1
Op	40

Set Up Production Line

1 Create an entry using the following settings:

Use Production Line Maintenance (18.22.1.1)

Field	Data
Production Line	1000
Site	Train
Item Number	500
Start Date	01/01/09
Units/Hour	1.00

Create Inventory

Use Receipts Unplanned (3.9)

Receive into location 100, 500 of each of your four components, assign them lot numbers equal to the item codes, for example item 100, lot L100, item 200, lot L200. This will keep things simple for the exercise.

Create A Work Order

1 Create a work order using the following settings:

Use Work Order Maintenance (16.1)

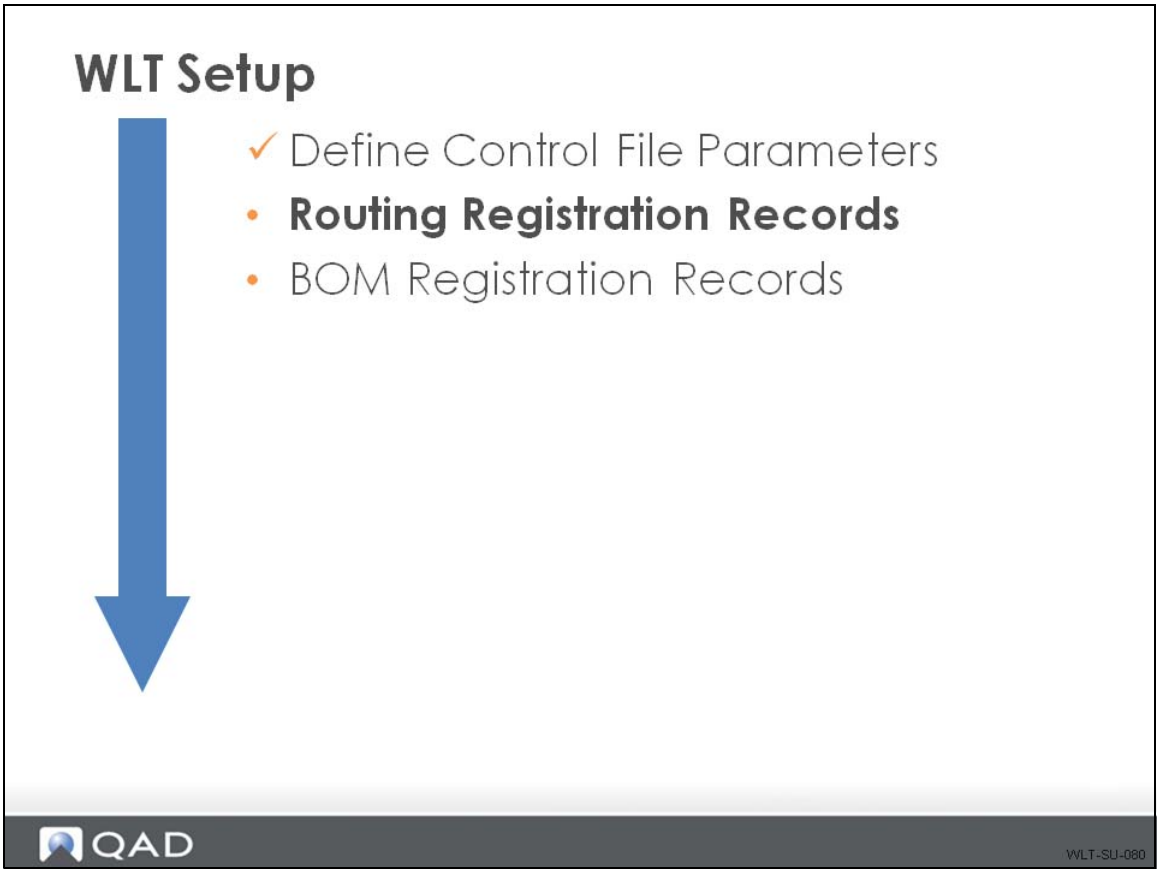
Field	Data
Work Order	<leave blank>
ID	<leave blank>
Item Number	<your parent item number>
Type	<leave blank>
Site	Train
Qty Ordered	100

Record the work order number: _____

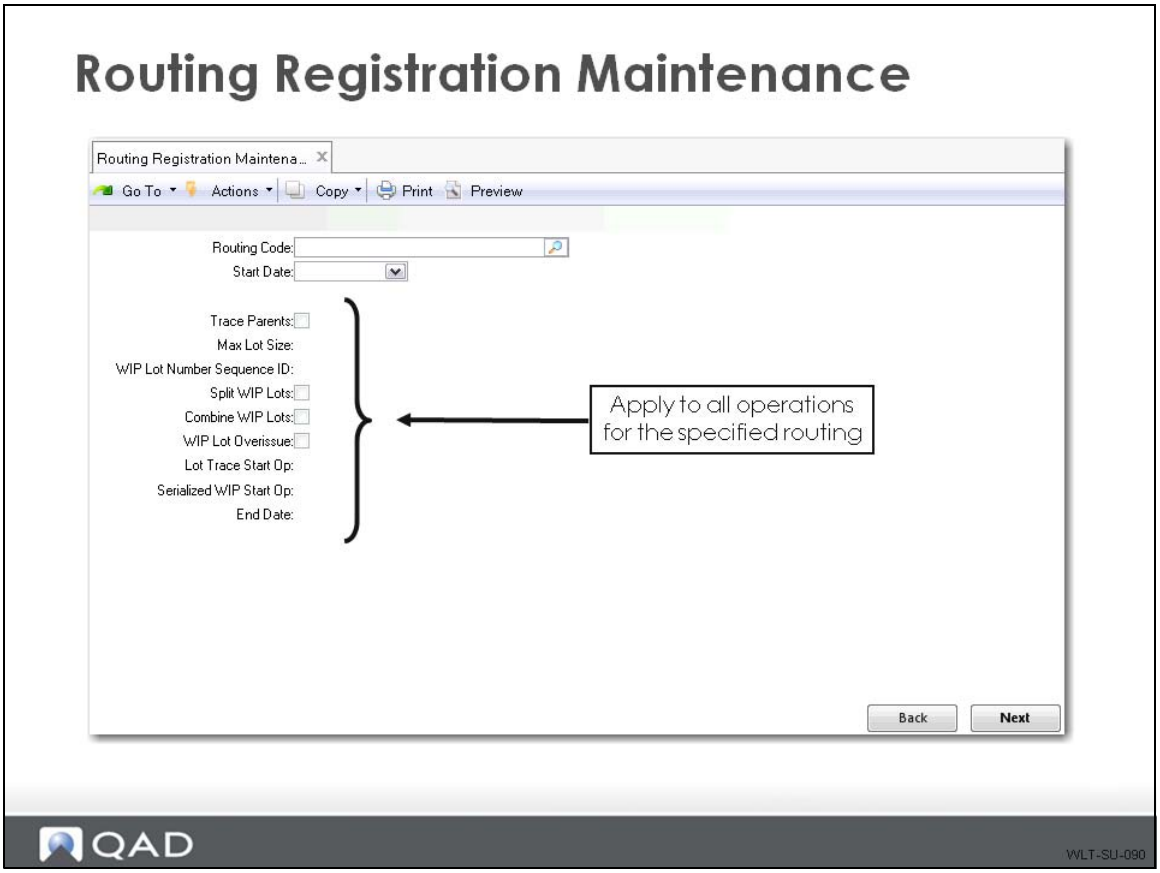
2 Using the work order number you just created, print the release, or set output to page.

Use Work Order Release/Print (16.6)

Routing Registration Records



Routing Registration Maintenance (3.22.13.1)

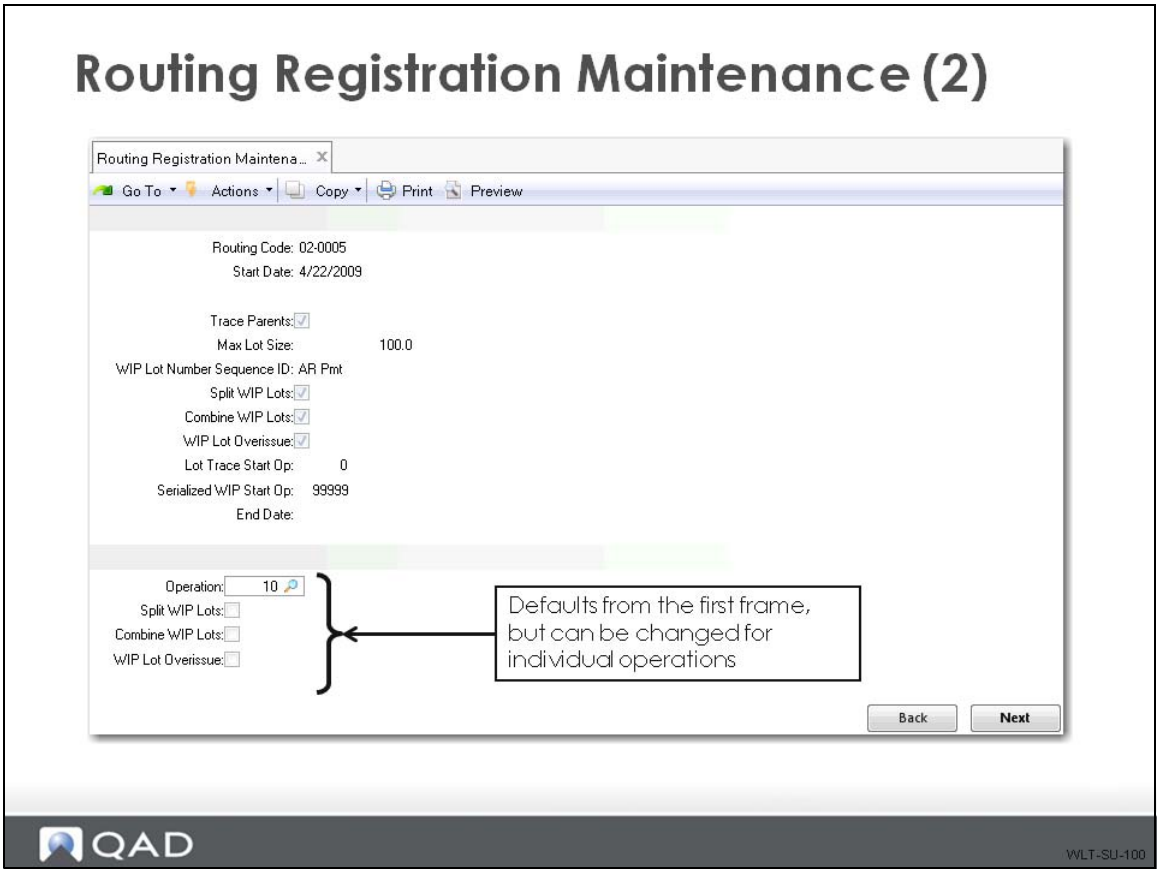


Use Routing Registration Maintenance to define control parameter exceptions for an individual routing code. You do this by creating new settings for parent item routings. Additionally, you can define settings for individual routing operations.

- Settings defined here override WIP Lot Trace Control program settings

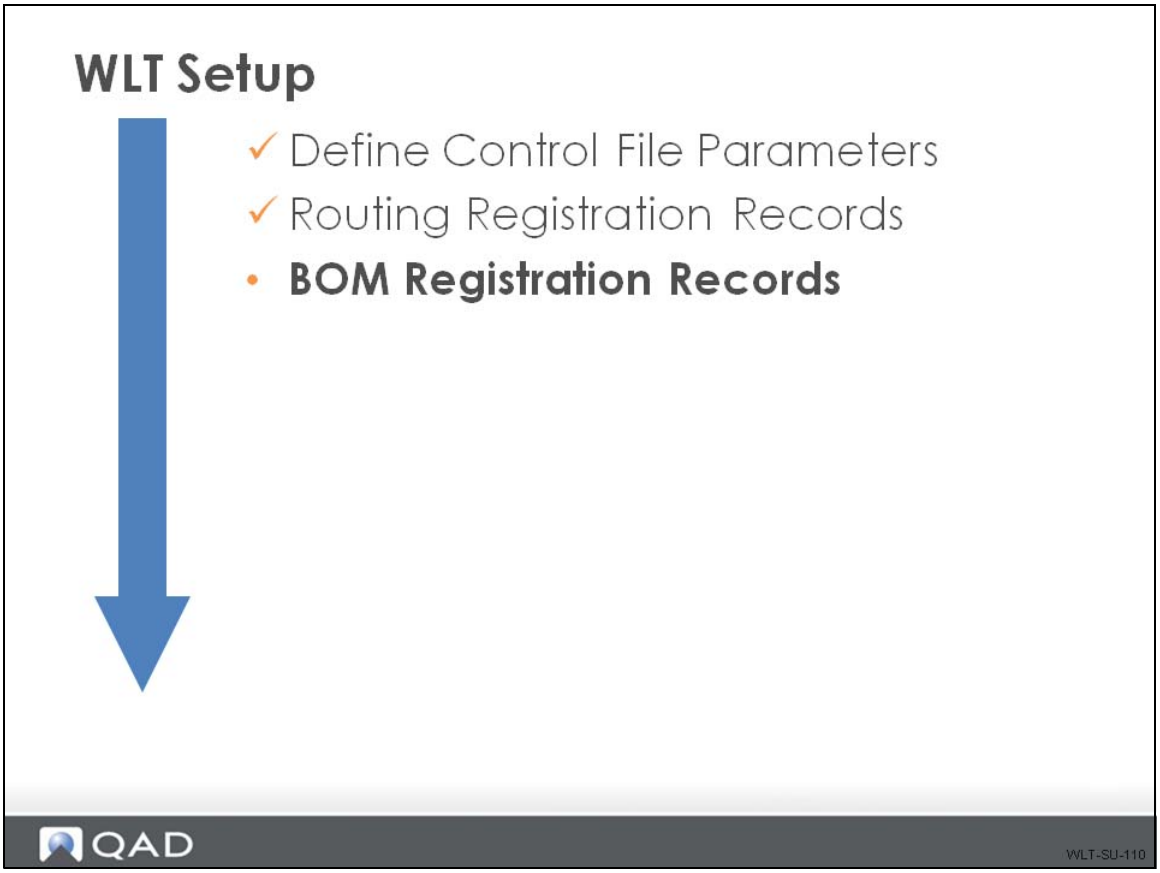
Routing Registration Maintenance consists of two frames. In the first frame you enter control information for the routing code. These settings will be used for all operations of the specified routing. However, you can use the second frame to enter control information specific to an operation within the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

Routing Registration Maintenance - 2nd Frame

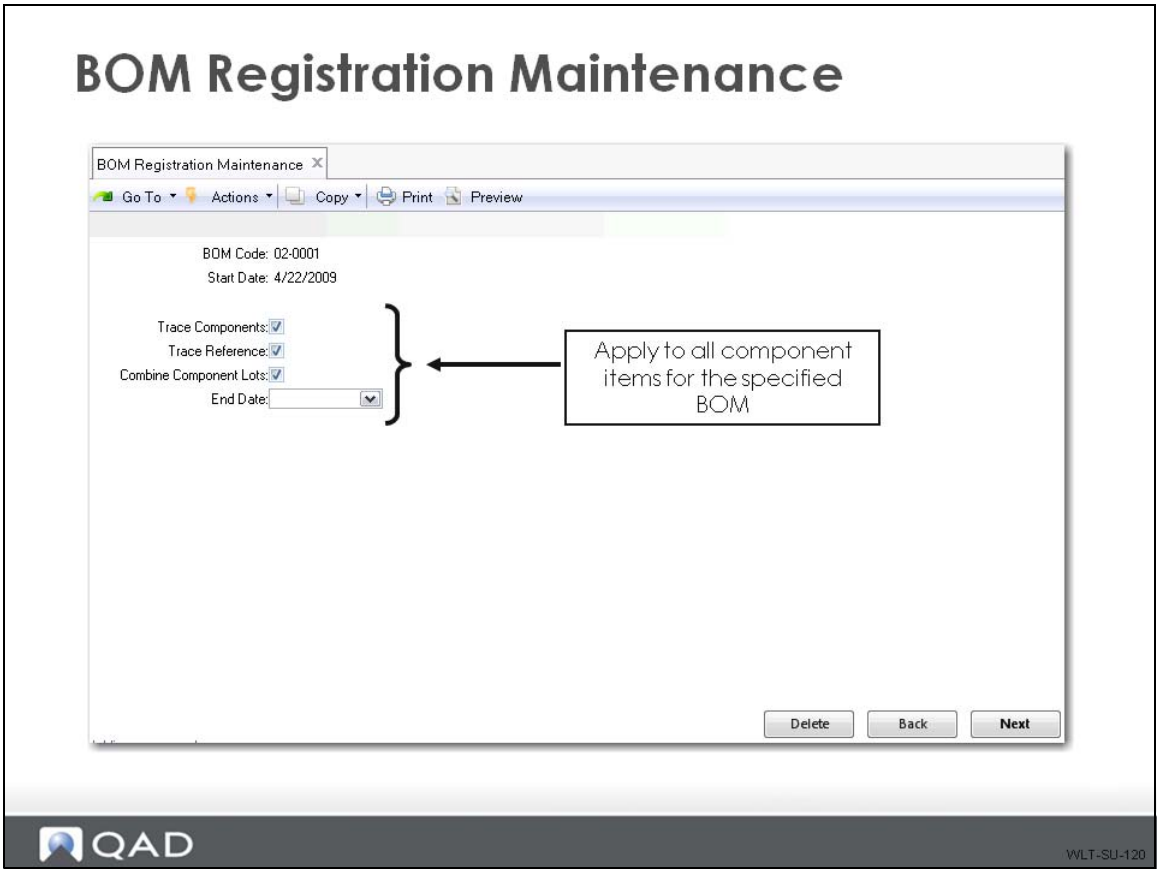


You can use the fields in the second frame to further define whether to allow lot splitting, combining, and overissuing for a specific operation in the routing.

BOM Registration Records



BOM Registration Maintenance (3.22.13.4)

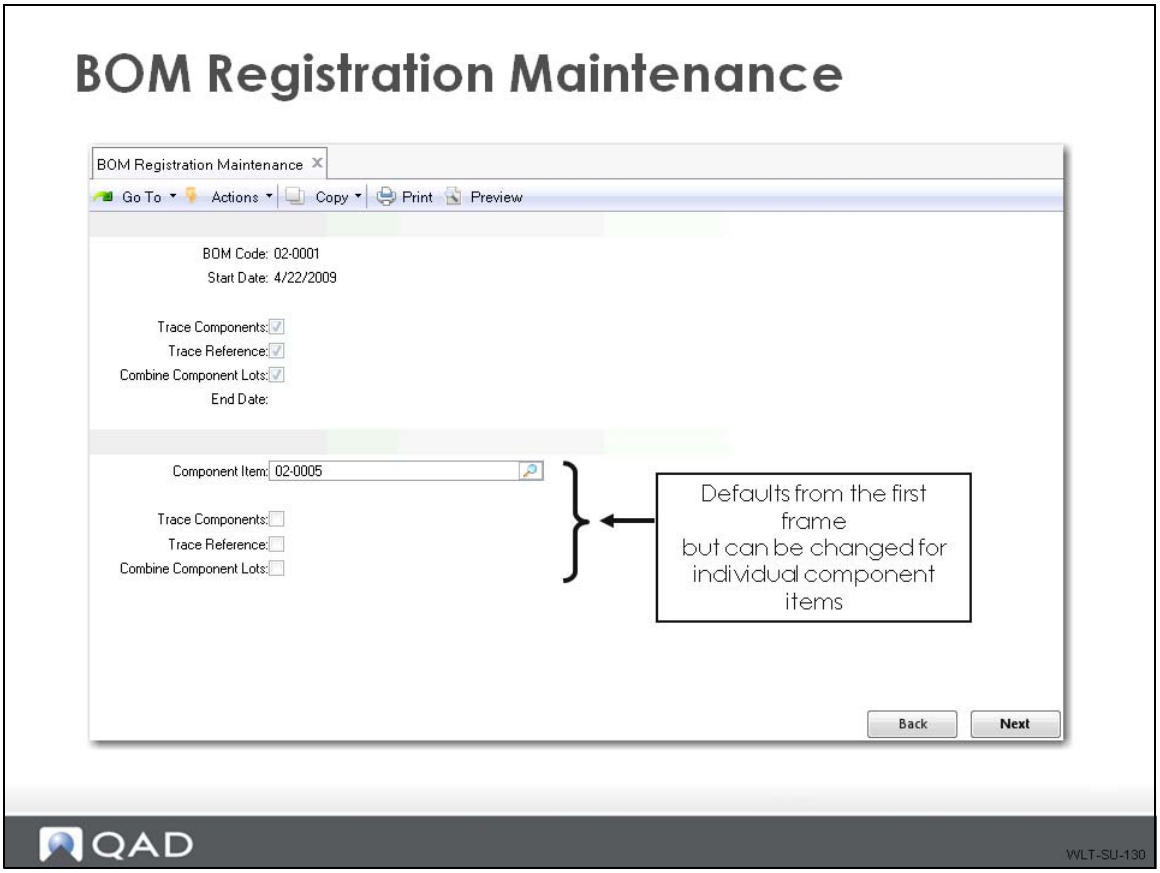


Use BOM Registration Maintenance to define control parameter exceptions for an individual BOM. You can also define settings for individual BOM component items.

- Settings defined here override WIP Lot Trace Control program settings

BOM Registration Maintenance consists of two frames. In the first frame you enter control information for the BOM. These settings will be 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 - 2nd Frame



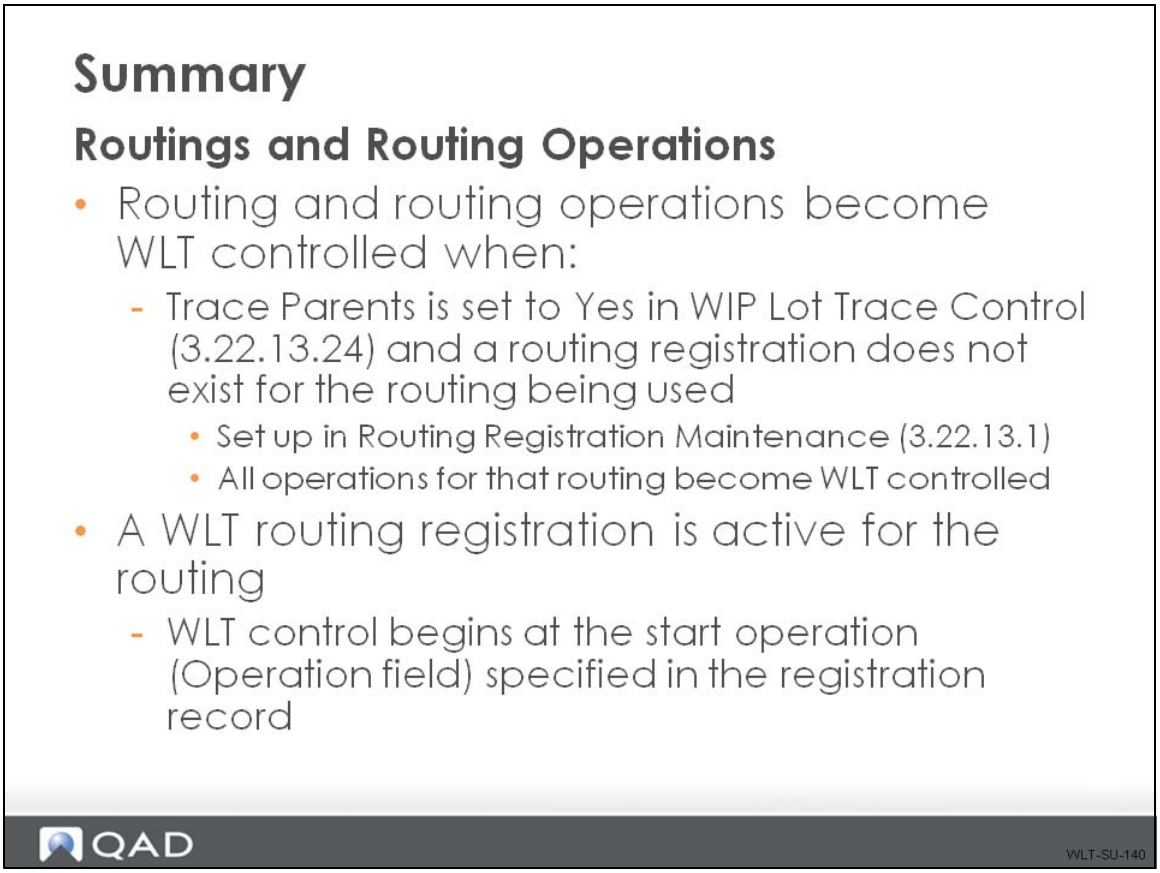
In the second frame you can override the BOM registration controls for a specific component item.

- 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:

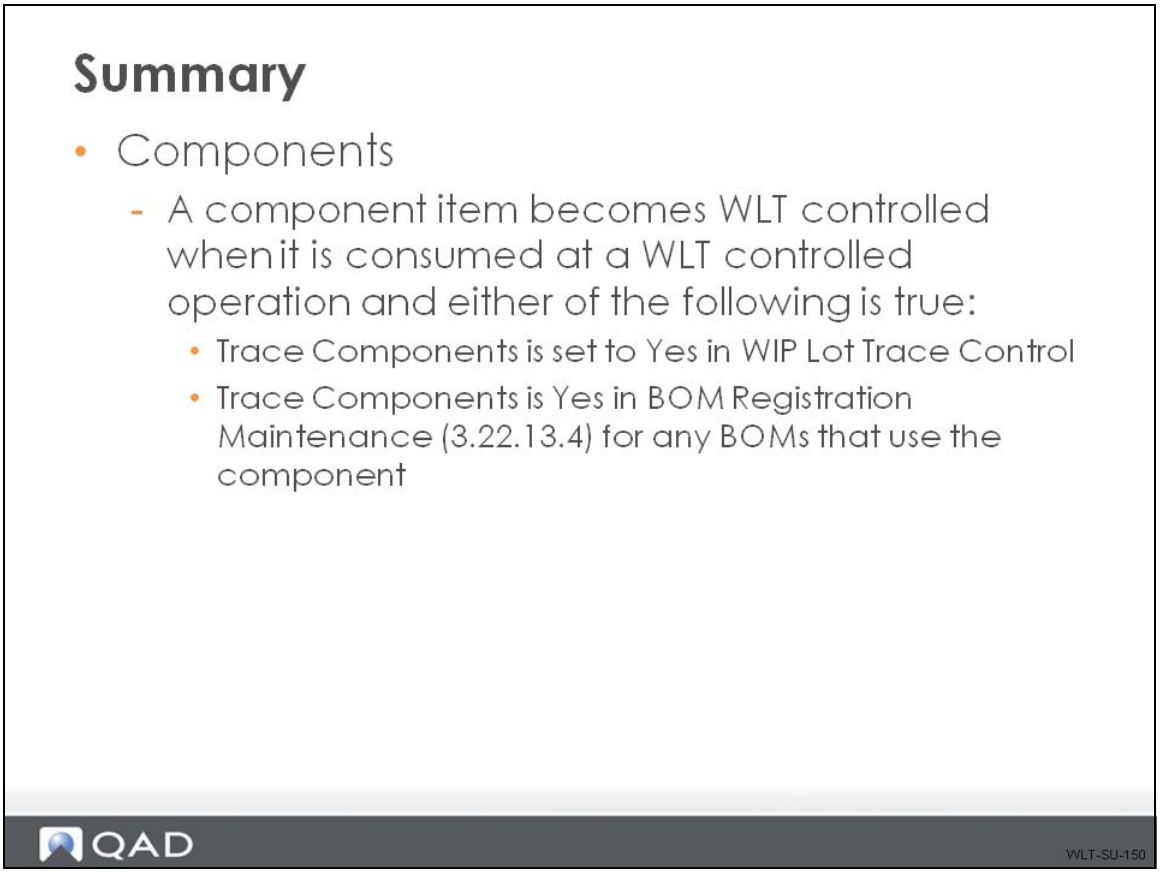
- Trace components or references
- Allow combining of component lots for specific component in the BOM

Summary: Routings and Routing Operations



For our exercise we will not setup any exceptions to the WIP Lot Trace rules set in the Control program.

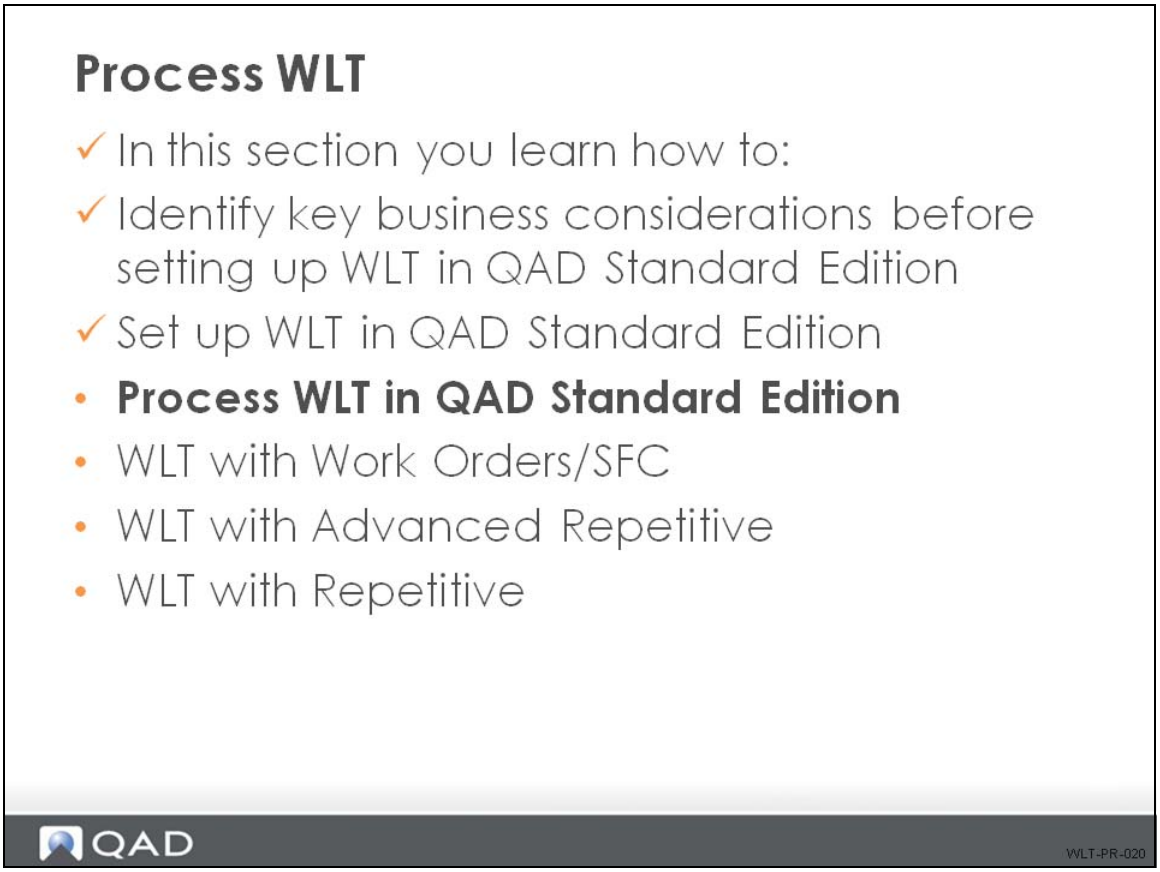
Summary: Components



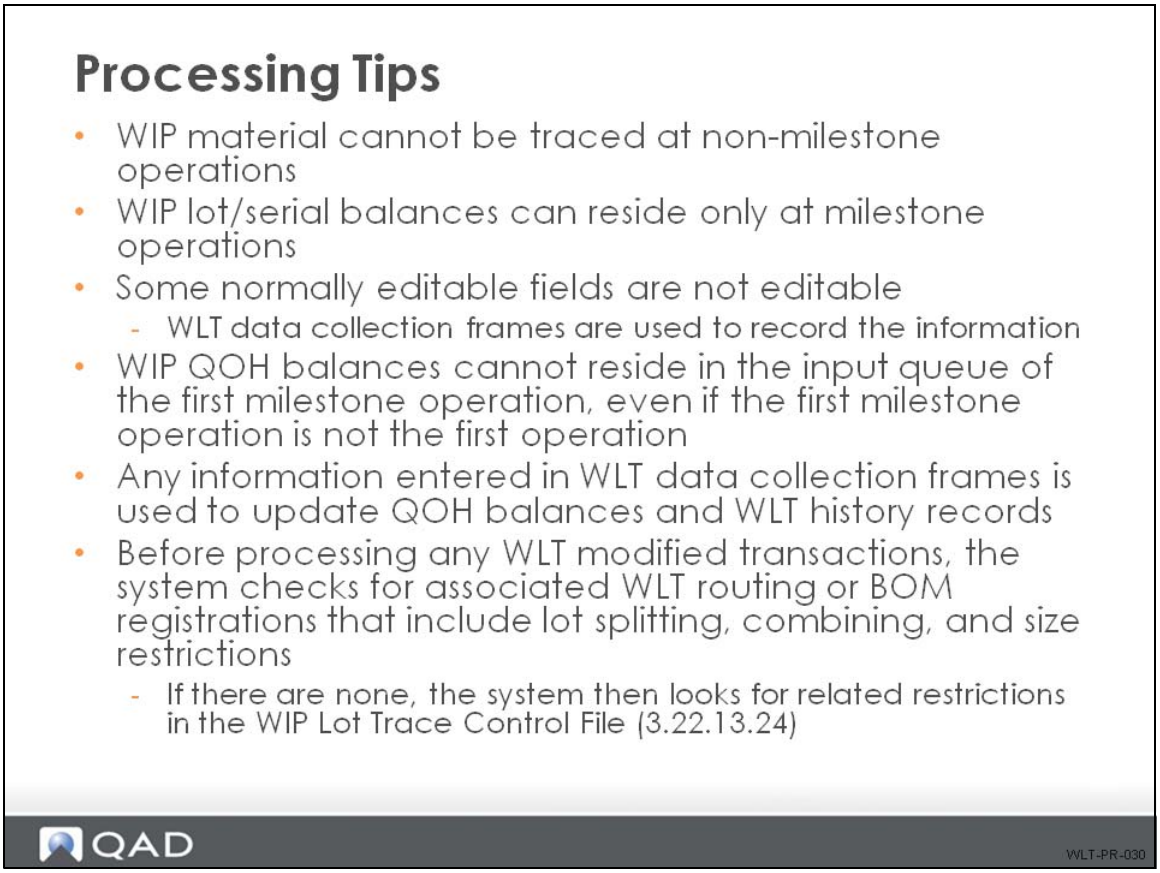
Chapter 4

Process WLT

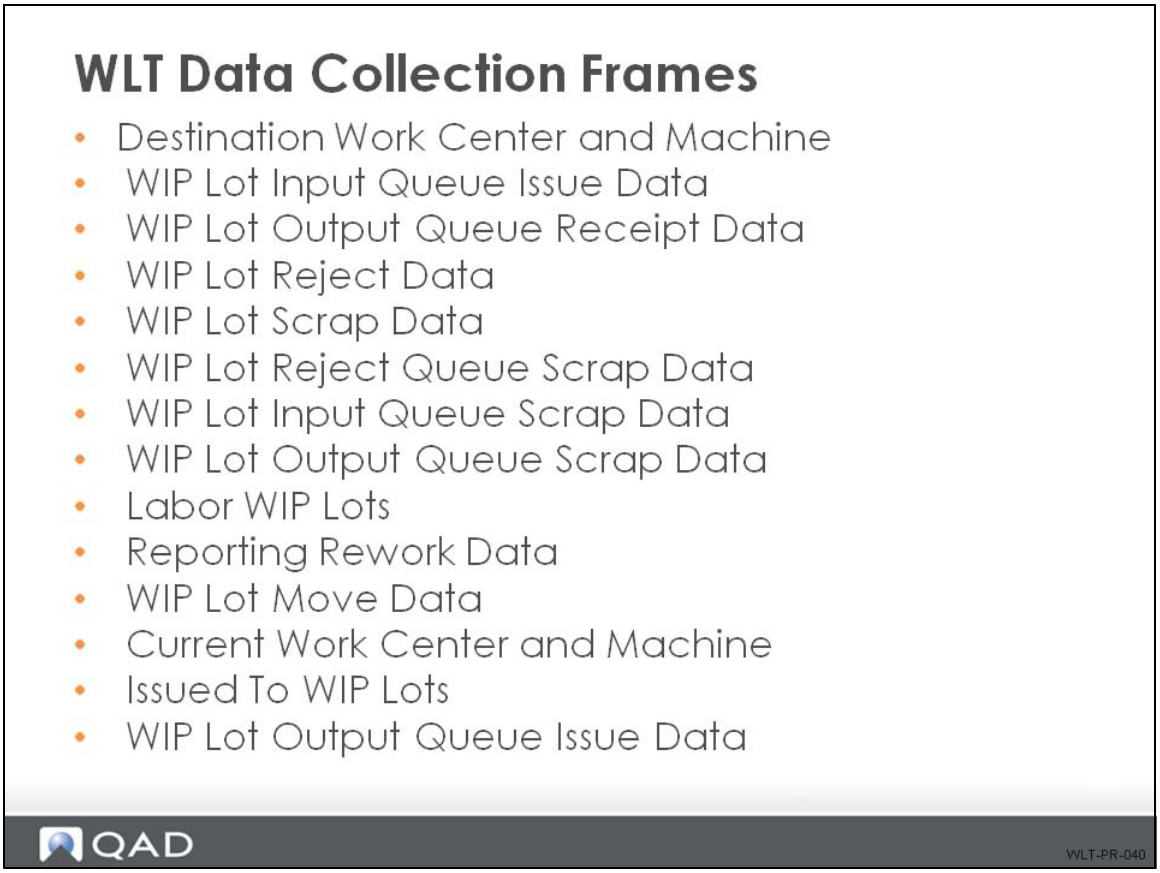
Course Overview



Processing Tips



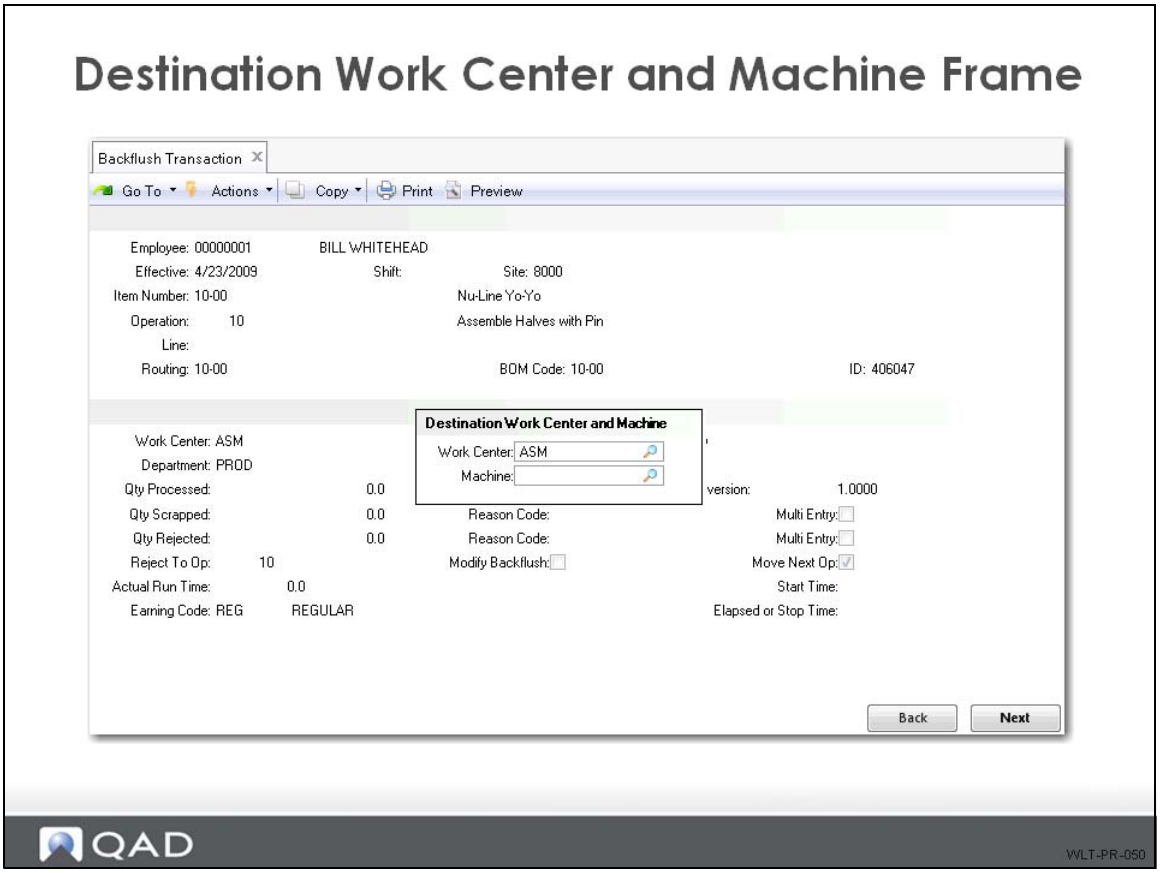
WLT Data Collection Frames



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

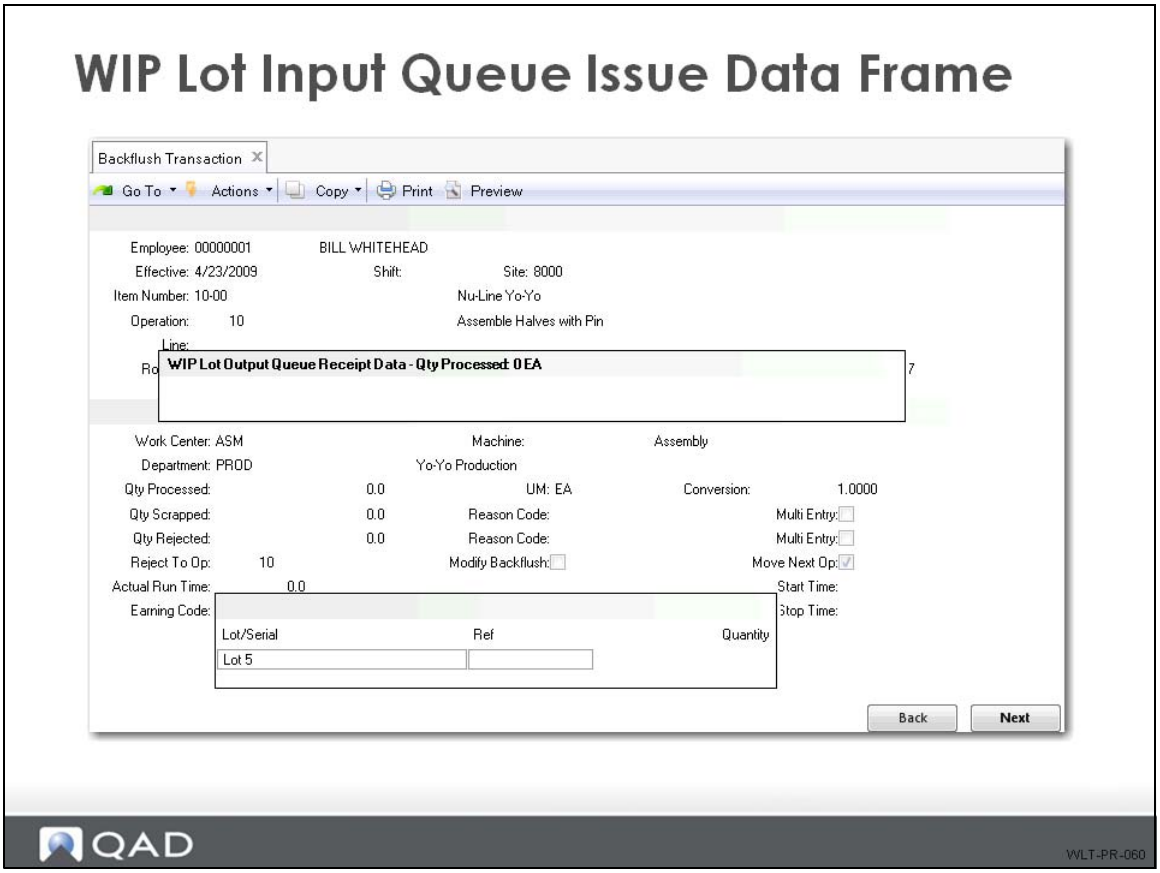
Destination Work Center and Machine Frame



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)

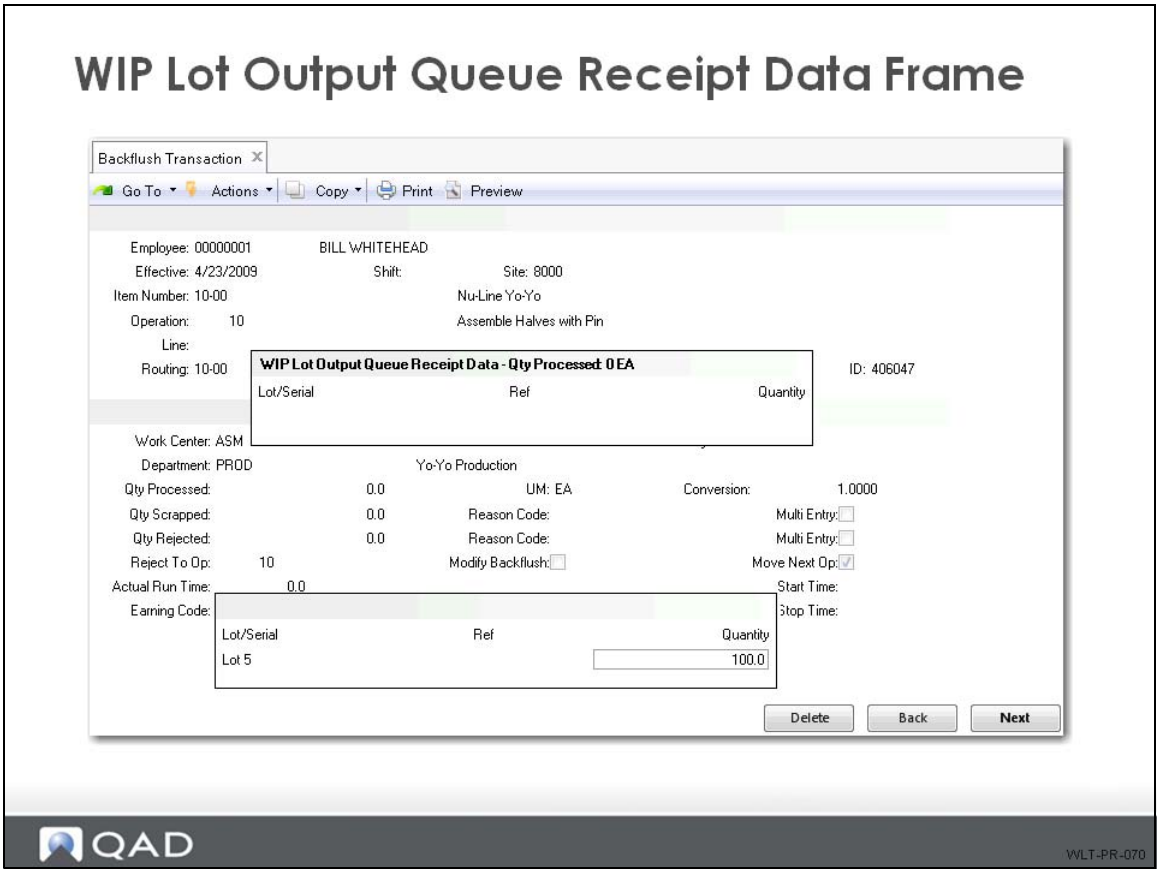
WIP Lot Input Queue Issue Data Frame



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)

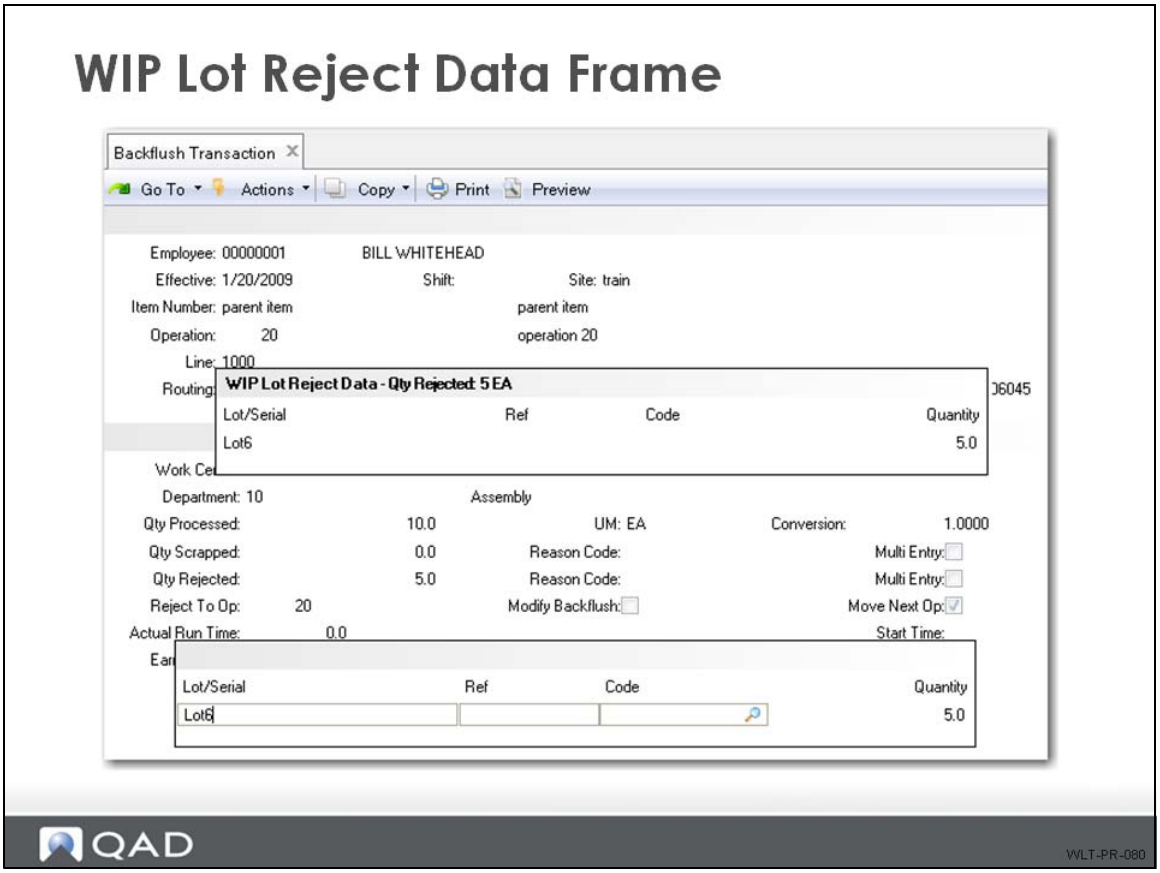
WIP Lot Output Queue Receipt Data Frame



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

- 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)

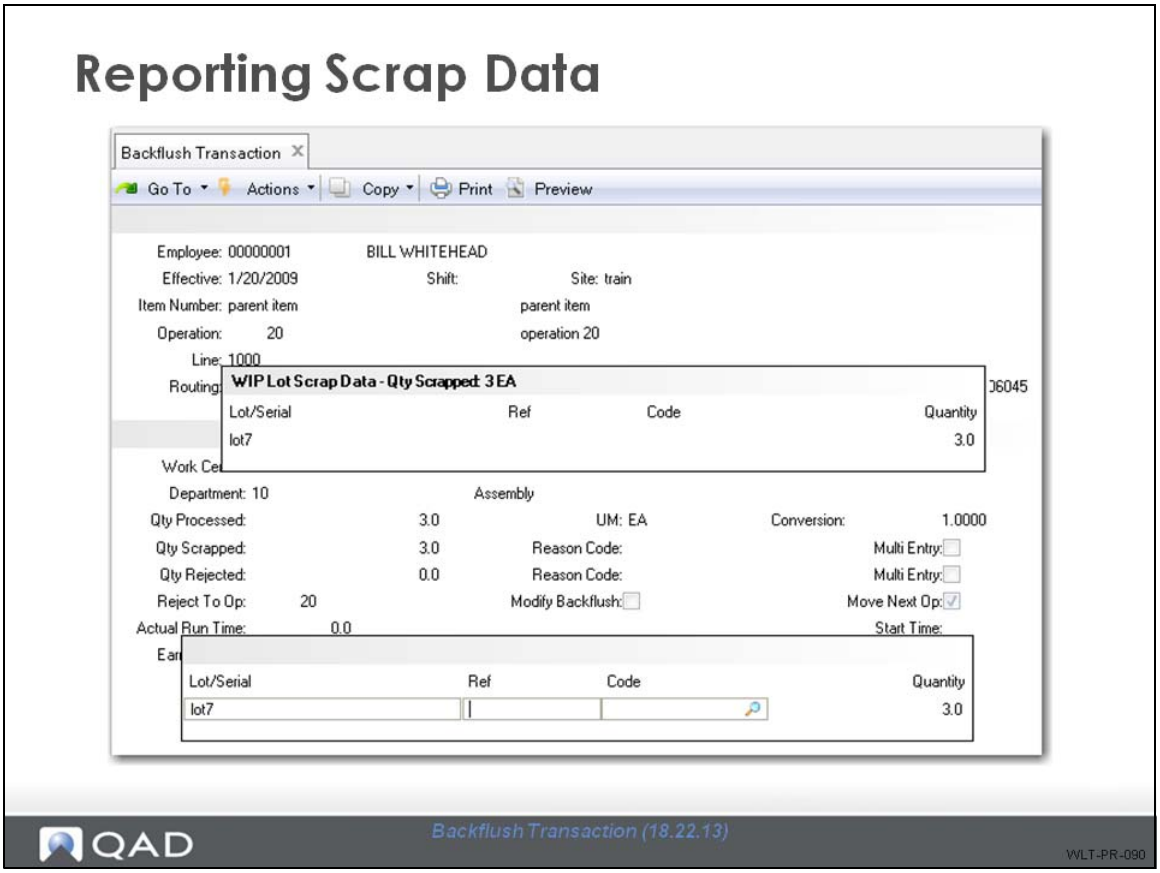
WIP Lot Reject Data Frame



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)

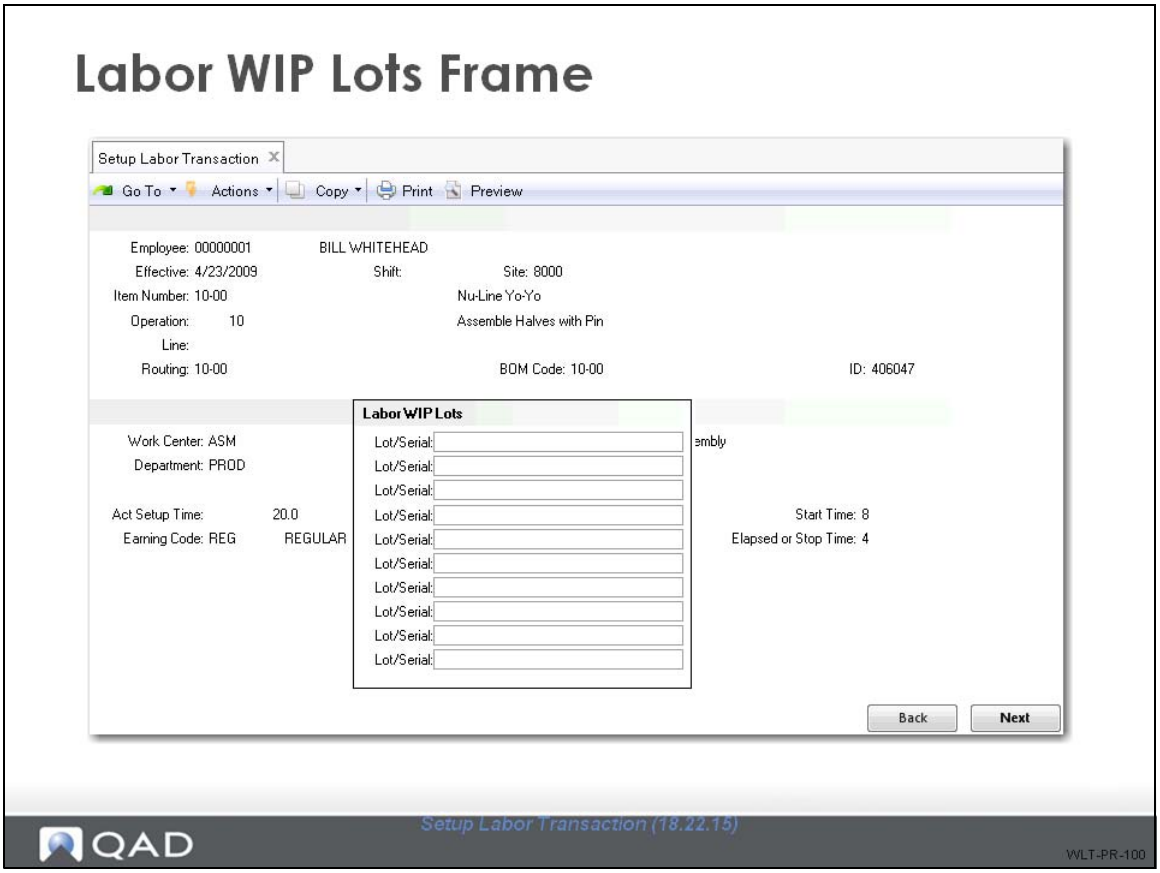
Reporting Scrap Data



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)

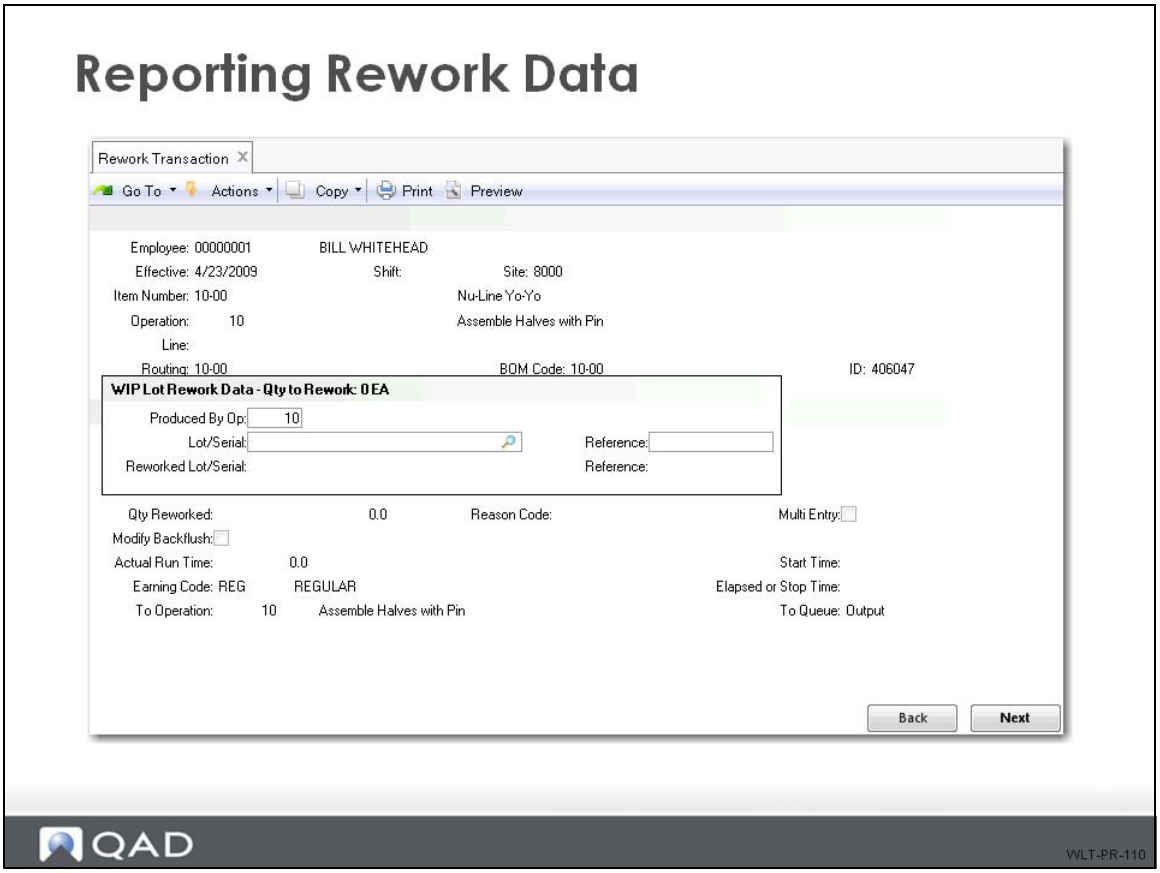
Labor WIP Lots Frame



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)

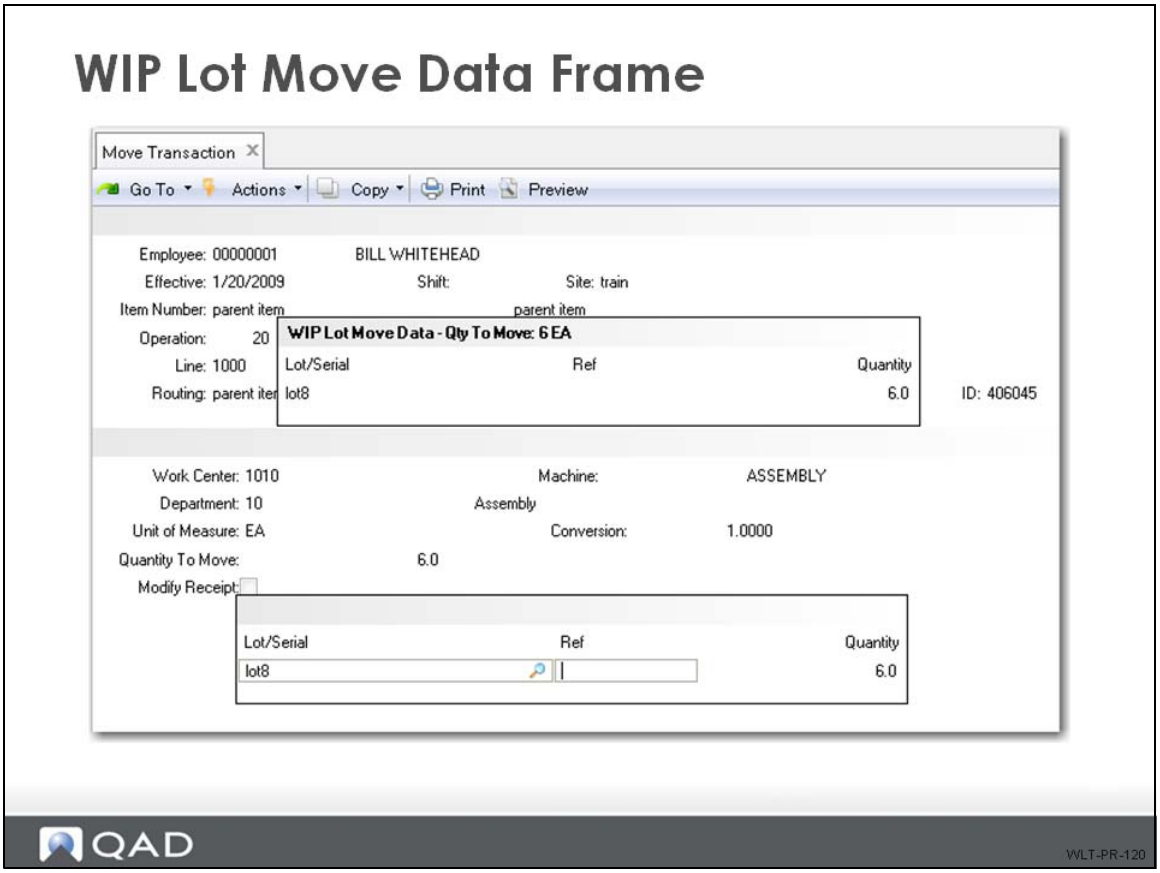
Recording Rework Data



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

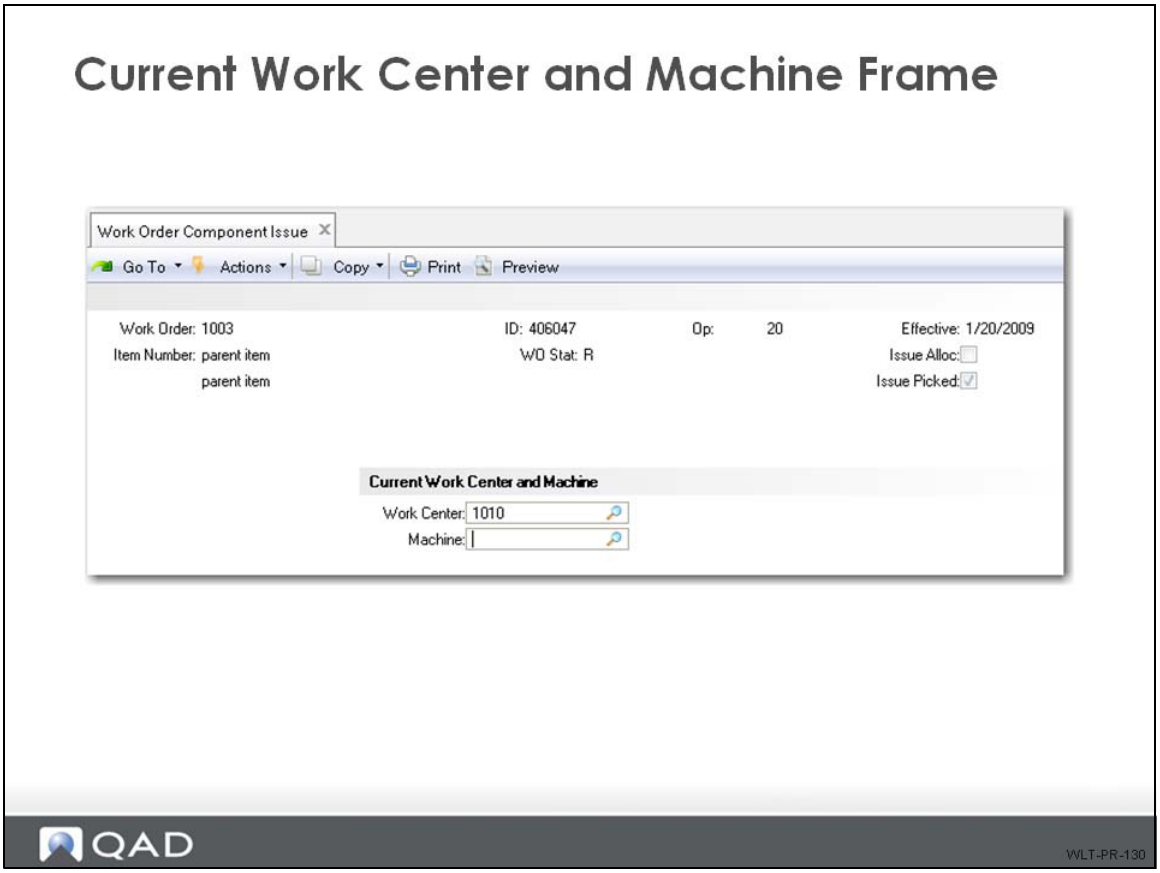


Use the WIP Lot Move Data frame to record the WIP lot/serial numbers, references, and quantities of material being moved.

- 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 finish goods inventory. The Receipt Data Input frame appears for receipt of finished goods into inventory.

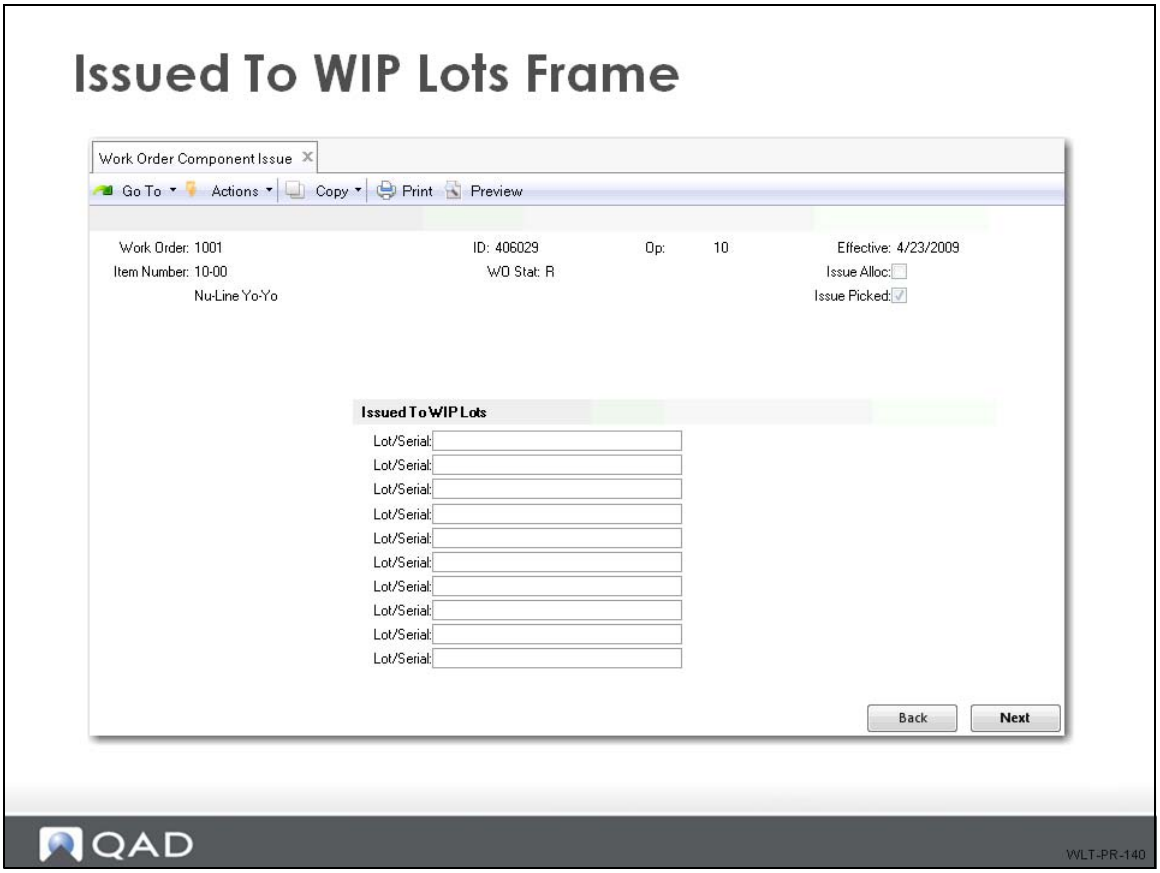
Current Work Center and Machine Frame



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

- Appears in:
  - Work Order Component Issue (16.10)
  - Work Order Receipt (16.11)

Issued to WIP Lots Frame

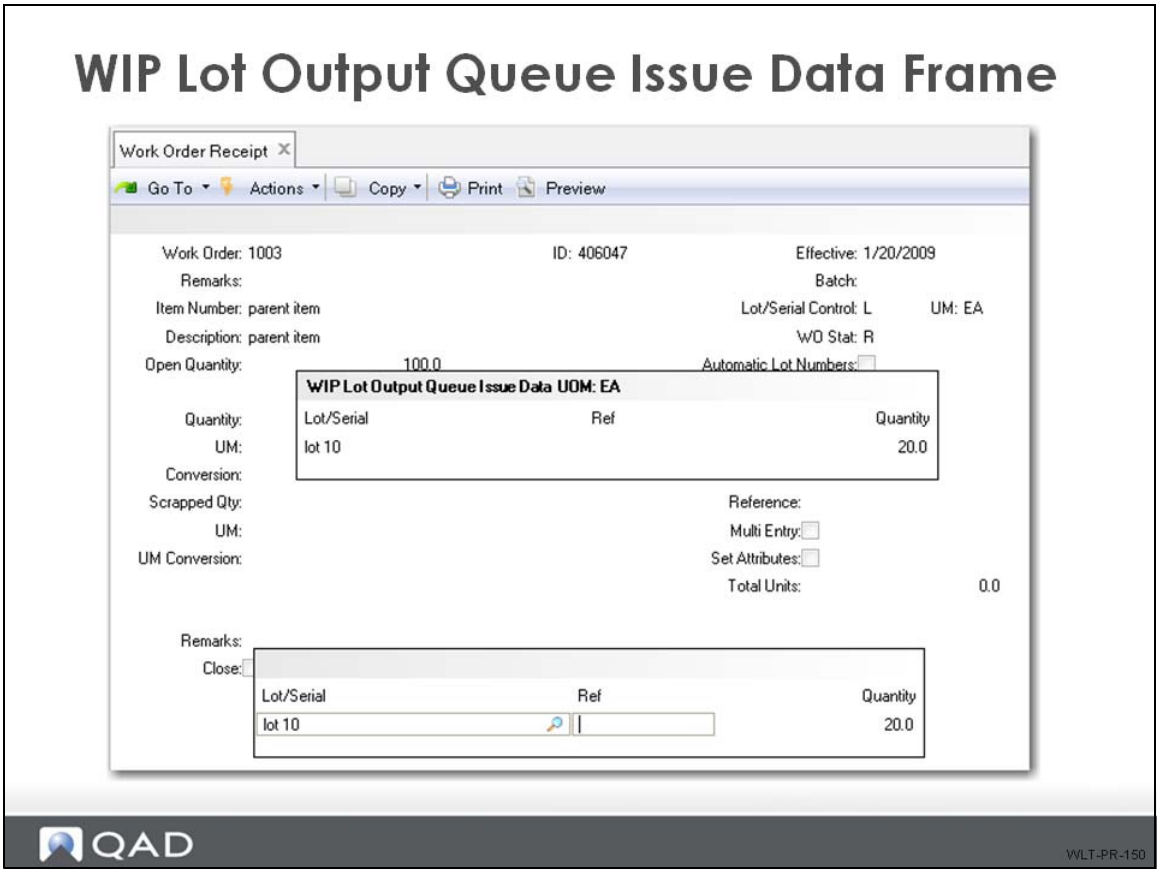


Use the Issued To WIP Lots frame to specify the produced WIP lot/serial numbers to which the specified components and WIP material are being issued.

Note The WIP material to be 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



Use the WIP Lot Output Queue Issue Data frame to enter a list of the WIP lot/serial numbers that should be consumed from the pervious 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?

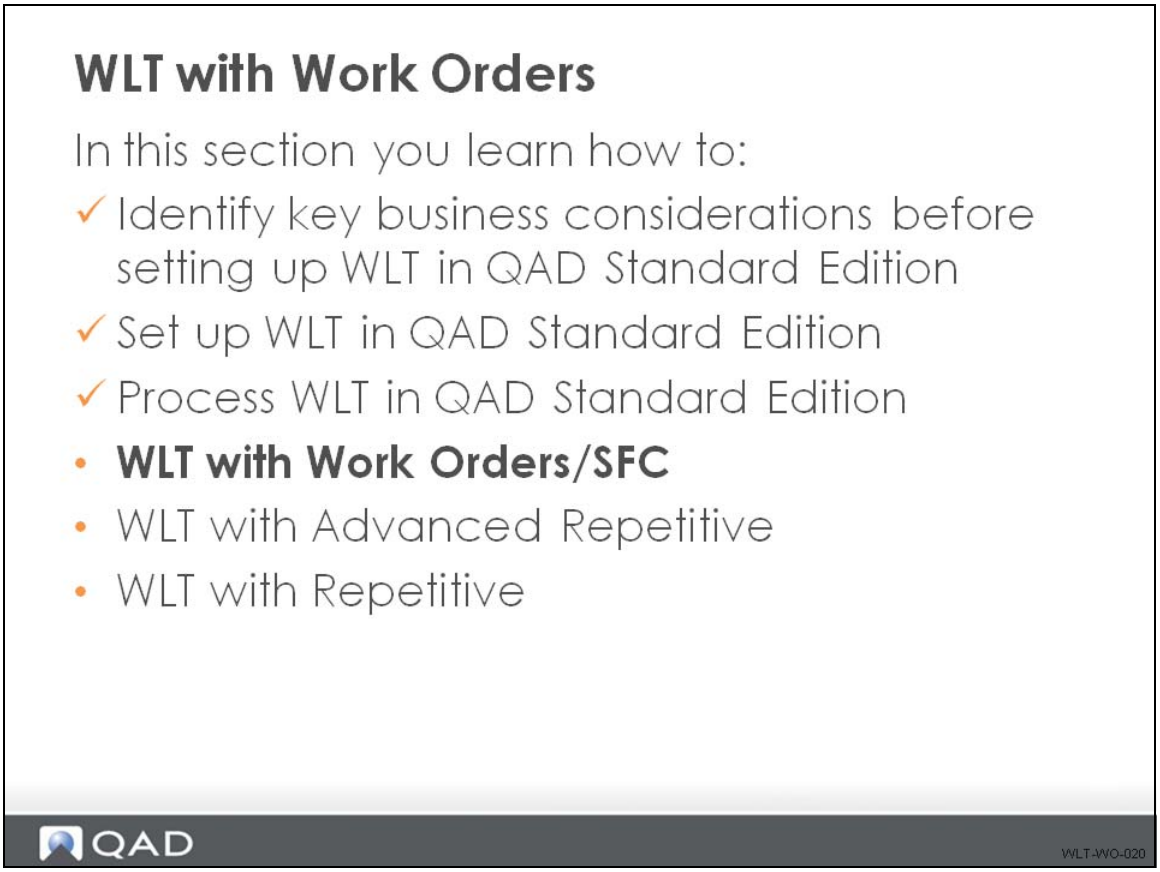
2 Can you reject partial lots using WIP Lot Trace? (Y/N)

3 Can you move WIP Lots into finished goods inventory? (Y/N)

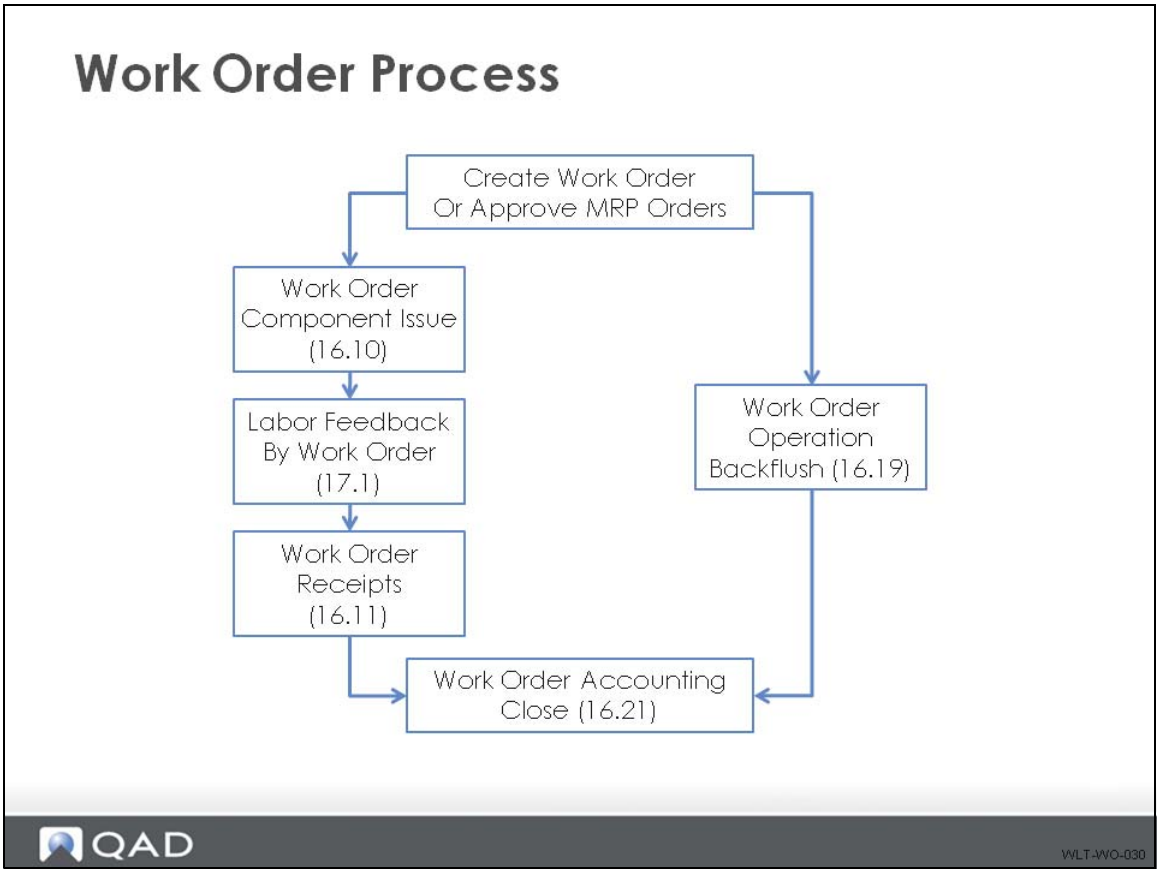
Chapter 5

WLT with Work Orders/SFC

Course Overview



Work Order Process



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

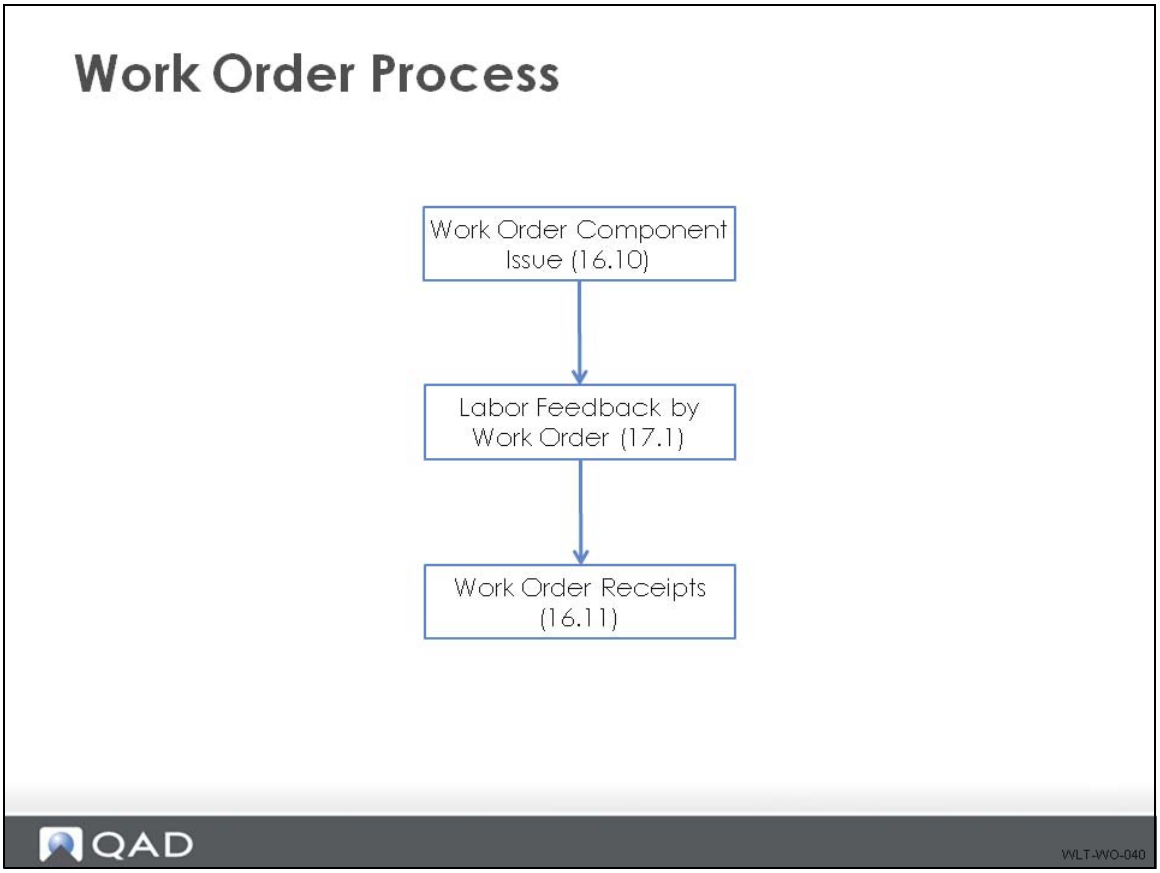
- WLT has been enabled
- Trace Parents is Yes in the WIP Lot Trace Control program (3.22.13.24), or
- A WLT BOM registration record is active for the parent item being manufactured and Trace Parents is Yes for that BOM registration record

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

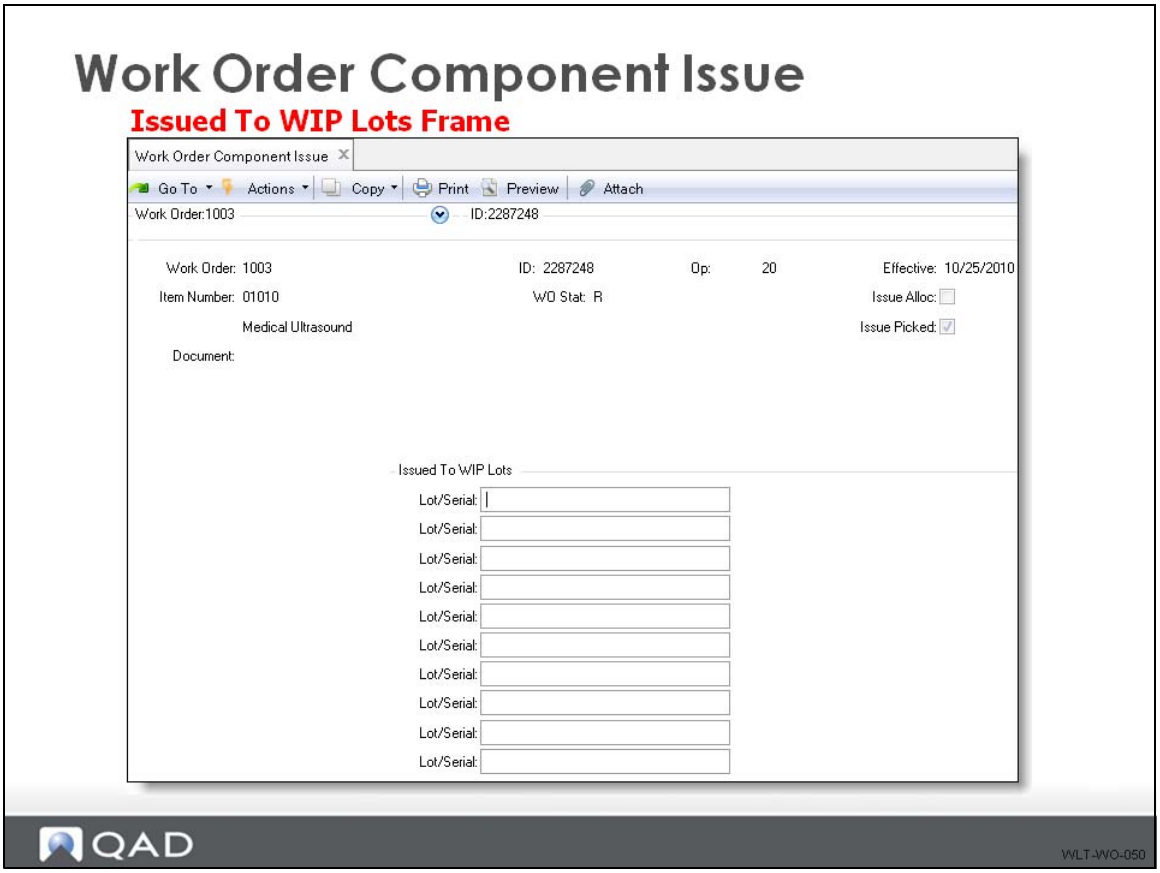
- Issue the components
- Report labor
- Receive finished goods into inventory

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



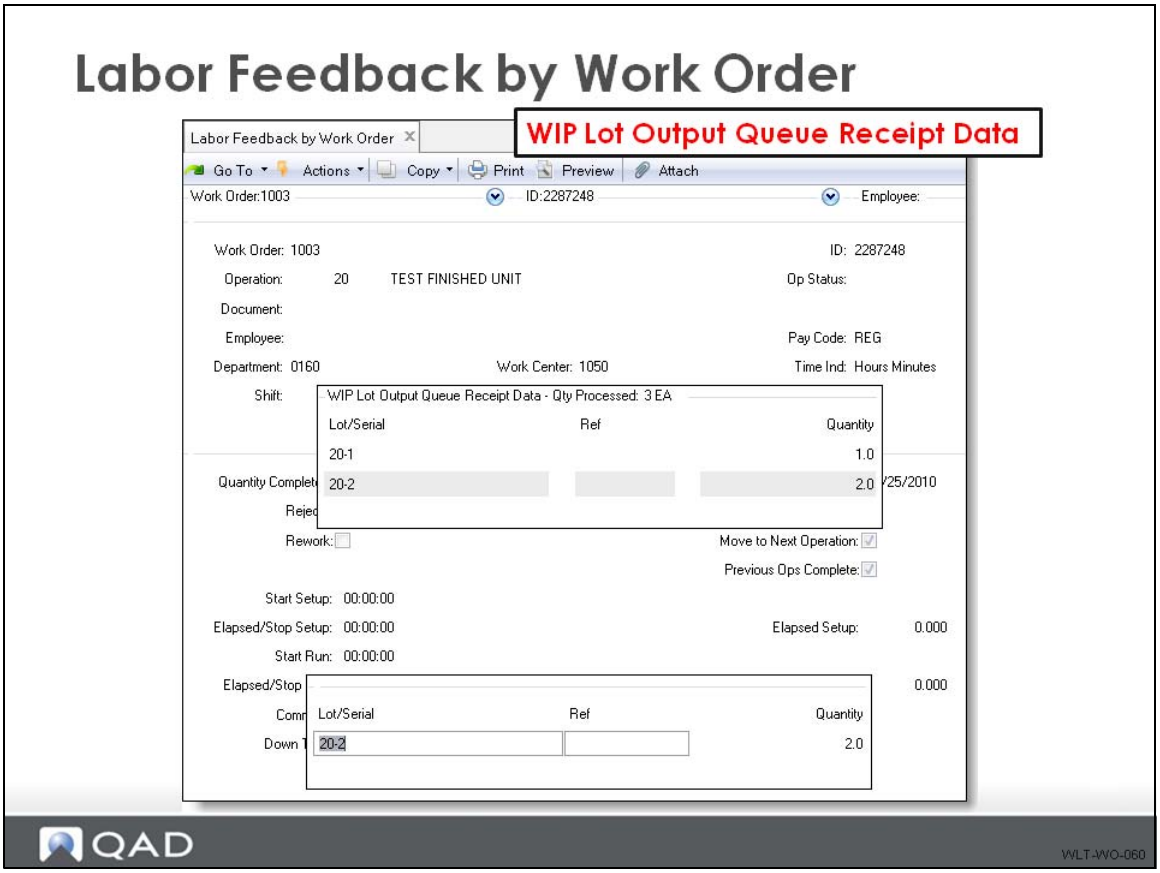
Work Order Component Issue (16.10)



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 (17.1)



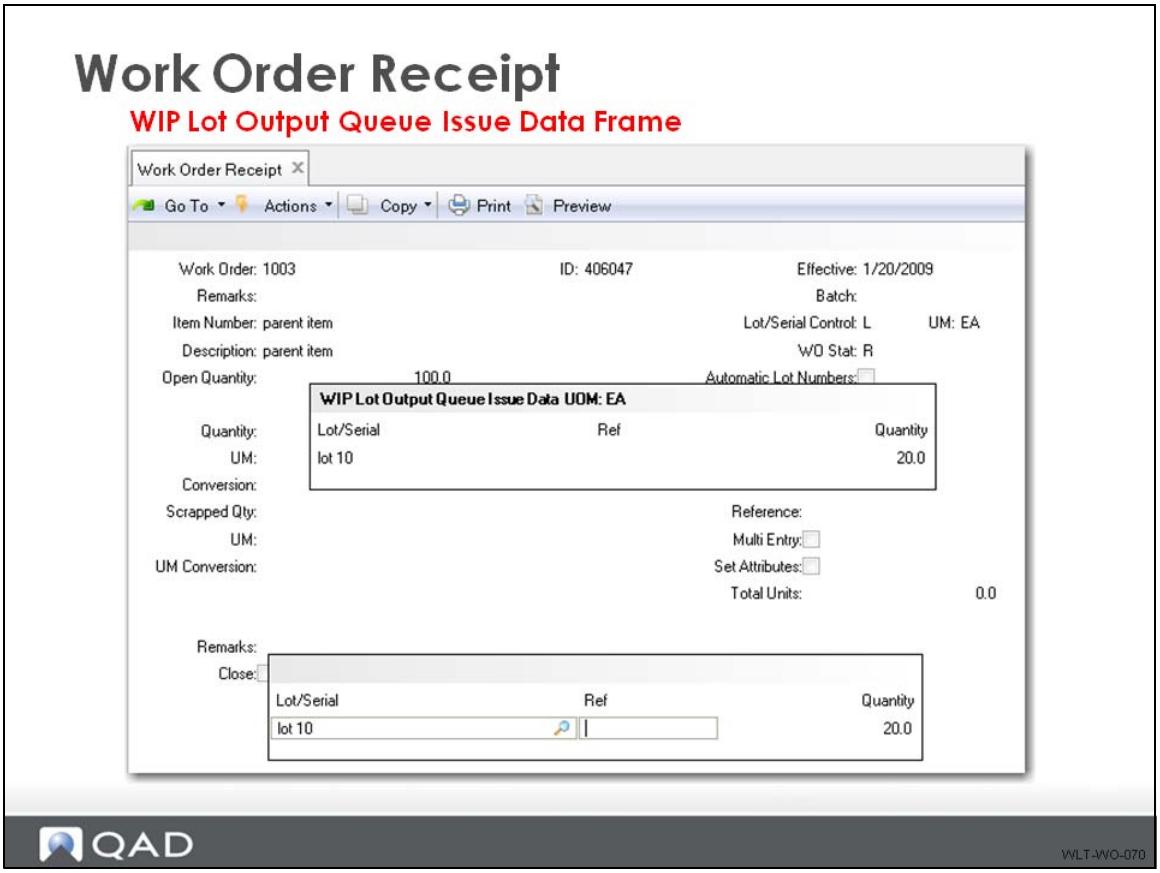
To report labor you can use any of the following Shop Floor Control programs:

- 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

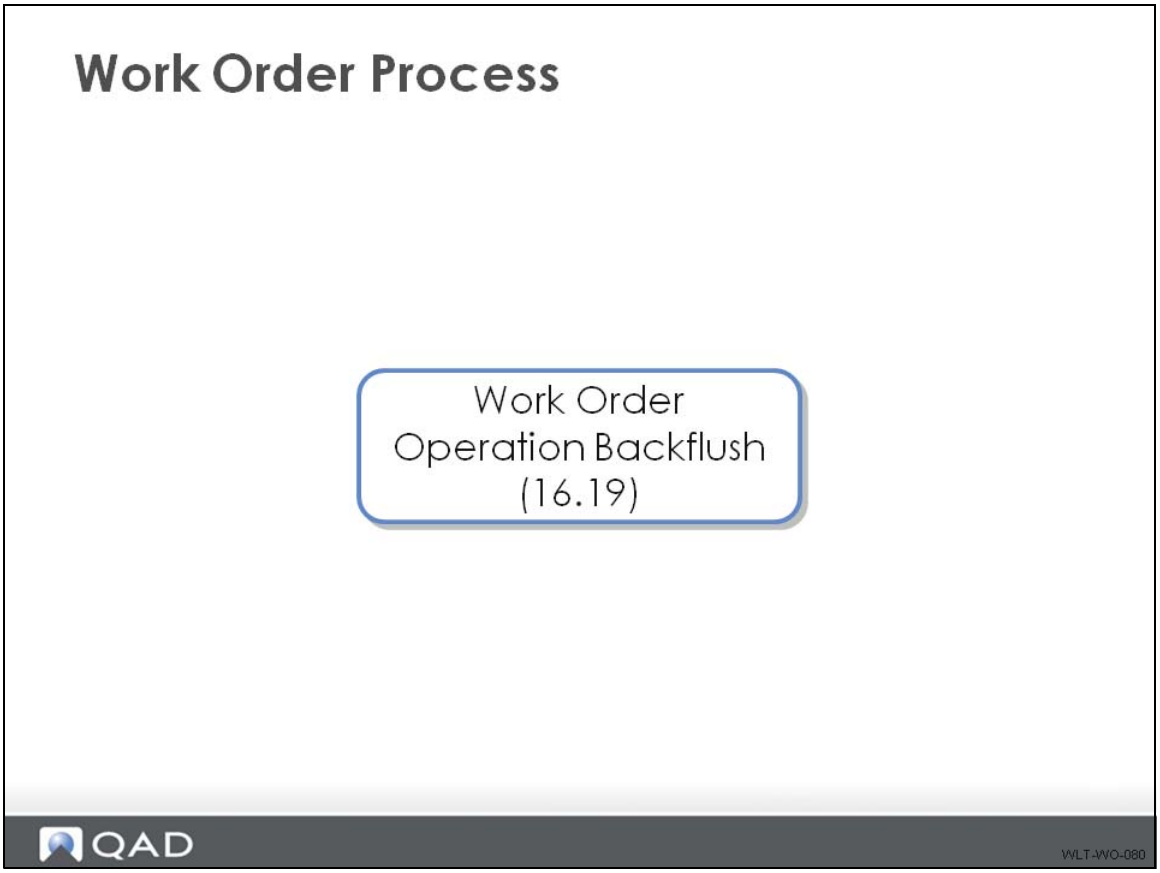
Work Order Receipt (16.11)



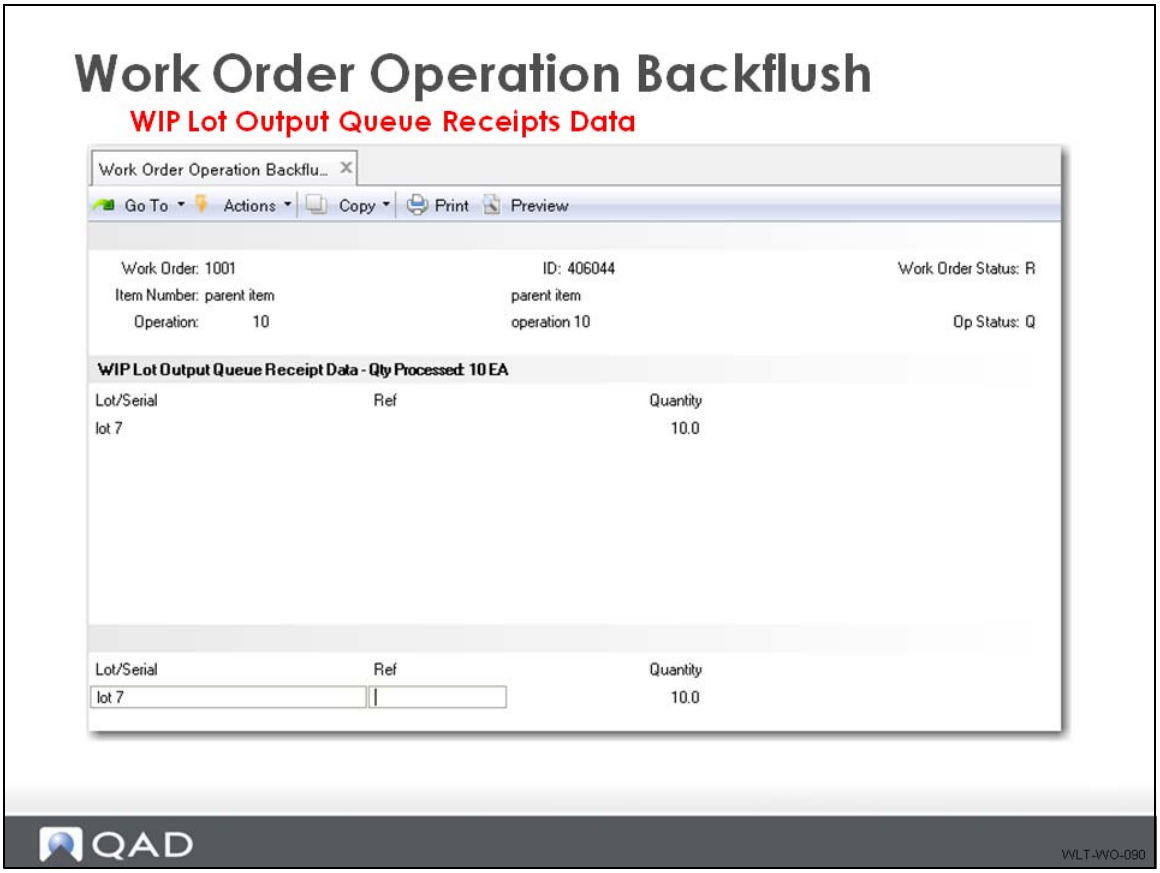
You use Work Order Receipt to receive the finished goods manufactured with WLT controlled routings. Work Order Receipt uses the WLT data collection frames:

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

Work Order Process



Work Order Operation Backflush (16.19)



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 Orders/SFC

Important The data used in these exercises might not be the same as the data shown in the screen captures in this lesson. In an exercise, if a field is not listed, you can accept the default value or leave it blank.

Work Order Component Issues

Issue materials to an operation. In addition to the component material to issue, you will be prompted to enter a list of WIP material to issue. You will 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, but rather, they are used to form the association between the materials issued and the materials that will be produced later.

1 To issue the components, enter the following:

Use Work Order Component Issue (16.10)

Field	Data
Work Order	<work order number created earlier>
Op	20

2 For the component item listed enter:

Field	Data
Item Number	<component item number listed>
Quantity	3
Lot/Serial	L200

Note Ignore any warning message.

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

Field	Data
Lot/Serial	10-1
Ref	<leave blank>
Qty	1

Repeat the above using the following data:

Field	Data
Lot/Serial	10-2
Ref	<leave blank>
Qty	2

Note Ignore warning message.

4 Complete the transaction by clicking back until the Is all information correct? message appears, confirm by clicking Yes.

View Tracing Data

Now you can view the tracing data created by the component issue transaction.

1 Review the operation transaction detail. It should default to your last transaction (ISSUE).

Use Operation Transaction Detail Inq (17.13.9)

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 will be listed with an item number which is the same as the parent item number.

3 View the same detail in report format.

Use WIP Lot Convert Trans Report (3.22.13.15)

4 View downstream traceability.

Use WIP Lot Where-Used Report (3.22.13.19)

5 View composed-of traceability.

Use WIP Lot Actual Bill Report (3.22.13.20)

Labor Feedback by Work Order

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

1 Record the labor feedback by entering the following:

Use Labor Feedback by Work Order (17.1)

Field	Data
Work Order	<the work order number entered above
Operation	20
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	20-1
Ref	<leave blank>
Qty	1

Repeat the above using the following data:

Field	Data
Lot/Serial	20-2
Ref	<leave blank>
Qty	2

Complete the transaction by clicking back until the Is all information Correct? message appears, confirm by clicking Yes.

If an E-signature frame appears enter your user id code for the current session and in the reason code field enter ESIG.

3 View the WIP lot/serial QOH balances for this work order.

Use WIP Lot Inventory Status Report (3.22.13.13)

Work Order Receipts

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

1 To process the receipt, enter the work order number of the work order created earlier.

Use Work Order Receipt (16.11)

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

Field	Data
Lot/Serial	40-1
Ref	<leave blank>
Qty	1

Repeat the above using the following data:

Field	Data
Lot/Serial	40-2
Ref	<leave blank>
Qty	2

Note Ignore any warning message.

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

Field	Data
Quantity	3
Site	Train
Location	200
Lot/Serial	FGL2

Complete the transaction by clicking next until the Is all information correct? message appears, confirm.

4 Review the operation transaction detail. It should default to your last transaction (RECEIPT).

Use Operation Transaction Detail Inq (17.13.9)

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 will be listed with an item number the same as the parent item number.

6 View the same detail in report format.

Use WIP Lot Convert Trans Report (3.22.13.15)

7 View downstream traceability.

Use WIP Lot Where-Used Report (3.22.13.19)

8 View composed-of traceability.

Use WIP Lot Actual Bill Report (3.22.13.20)

Work Order Operation Backflush

Issue material and labor and record completions at the second operation. It is very similar in concept to the Advanced Repetitive Backflush Transaction.

1 To perform the backflush, enter the following:

Use Work Order Operation Backflush (16.19)

Field	Data
Work Order	<work order number created earlier>
Operation	20
Employee	<use your Down Arrow to select the first record>
Qty Completed	3
Op Complete	No
Prev Ops Complete	No

2 Click Next until you are prompted for component lot/serials. For the component item listed enter:

Field	Data
Item Number	<component item number listed>
Quantity	3
Lot/Serial	L4

Note Ignore any warning message.

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

Field	Data
Lot/Serial	10-1
Ref	<leave blank>
Qty	3

Note Ignore any warning message.

4 Advance to the WIP Lot Output Queue Receipt Data frame. Delete the default entry by doing the following:

a Press the Down Arrow.

b Click Next

c Click Delete.

d Confirm the delete.

5 In the WIP Lot Output Queue Receipt Data frame enter the following:

Field	Data
Lot/Serial	20-1
Ref	<leave blank>
Qty	3

Complete the transaction by clicking next until the Is all information correct? message appears, confirm.

6 Review the operation transaction detail. It should default to your last transaction (MOVE).

Use Operation Transaction Detail Inq (17.13.9)

7 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 will be listed with an item number the same as the parent item number.

8 View the same detail in report format.

Use WIP Lot Convert Trans Report (3.22.13.15)

9 View downstream traceability.

Use WIP Lot Where-Used Report (3.22.13.19)

10 View composed-of traceability.

Use WIP Lot Actual Bill Report (3.22.13.20)

Register Work Order Operation Scrap

Use this function to record WIP material scrapped at an operation. This function is very similar to the Advanced Repetitive Scrap Transaction. Additionally, this function can be used with or without WIP Lot Trace.

1 To record the scrap material, enter the following:

Use Operation Scrap Transaction (17.7)

Field	Data
Work Order	<work order number created earlier>
Operation	30
Employee	<use your Down Arrow to select the first record>

2 Advance to the WIP Lot Input Queue Scrap Data input frame, press the Lookup key. You should see lot/serial 20-1 listed in the lookup frame. Select it and enter a Qty of 1.

Complete the transaction by clicking next until the Is all information correct? message appears, confirm.

3 Review the transaction detail for your last transaction (WOSCRAPI). It will be the default.

Use Operation Transaction Detail Inq (17.13.9)

4 Advance to the WIP Lot Processed frame. This frame shows the WIP lot/serial that was scrapped by this transaction. Note that there will be one Operation History record written for each WIP lot/serial scrapped.

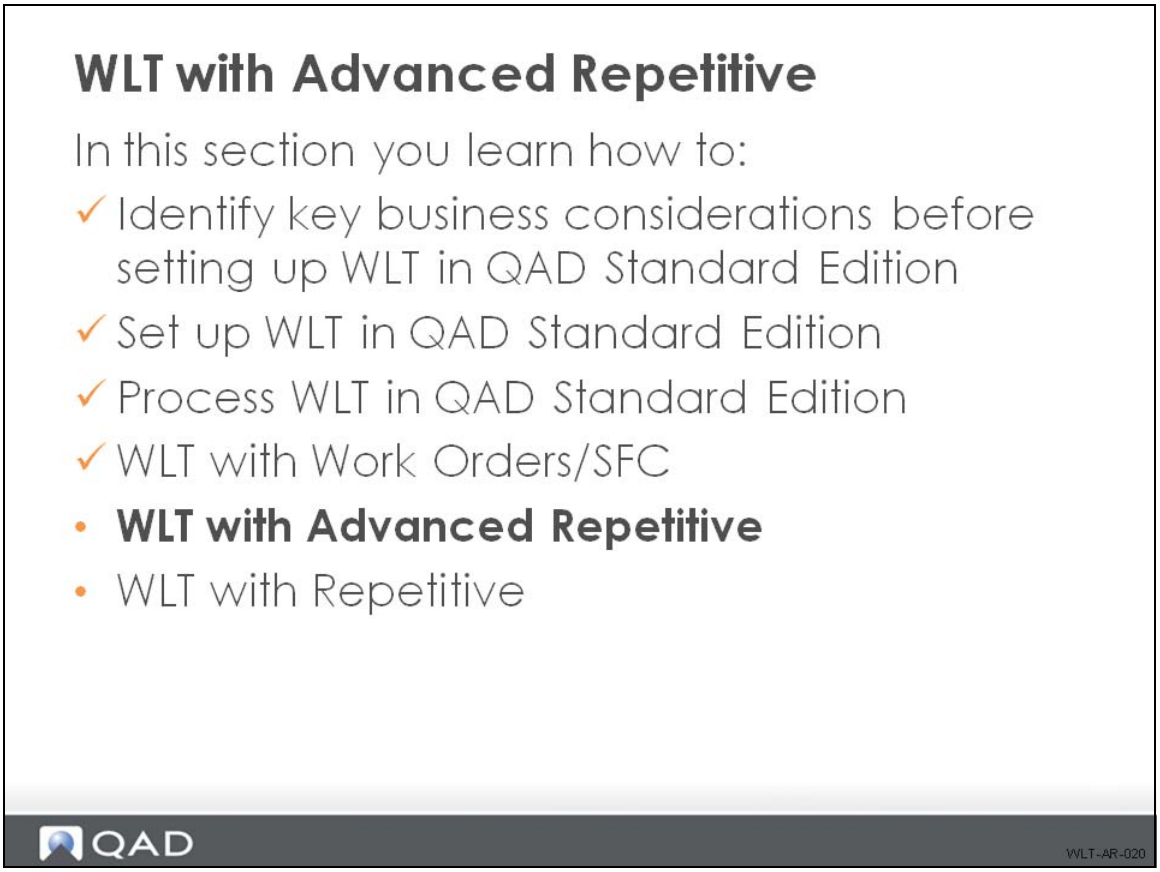
Note You can also use:

- WIP Lot Non-Convert Trans Report (3.22.13.16) to display this information
- Operations by Work Center Report (17.13), Operations by Work Order Report (17.14), and Operations by Employee Report (17.15) to report operation scrap data

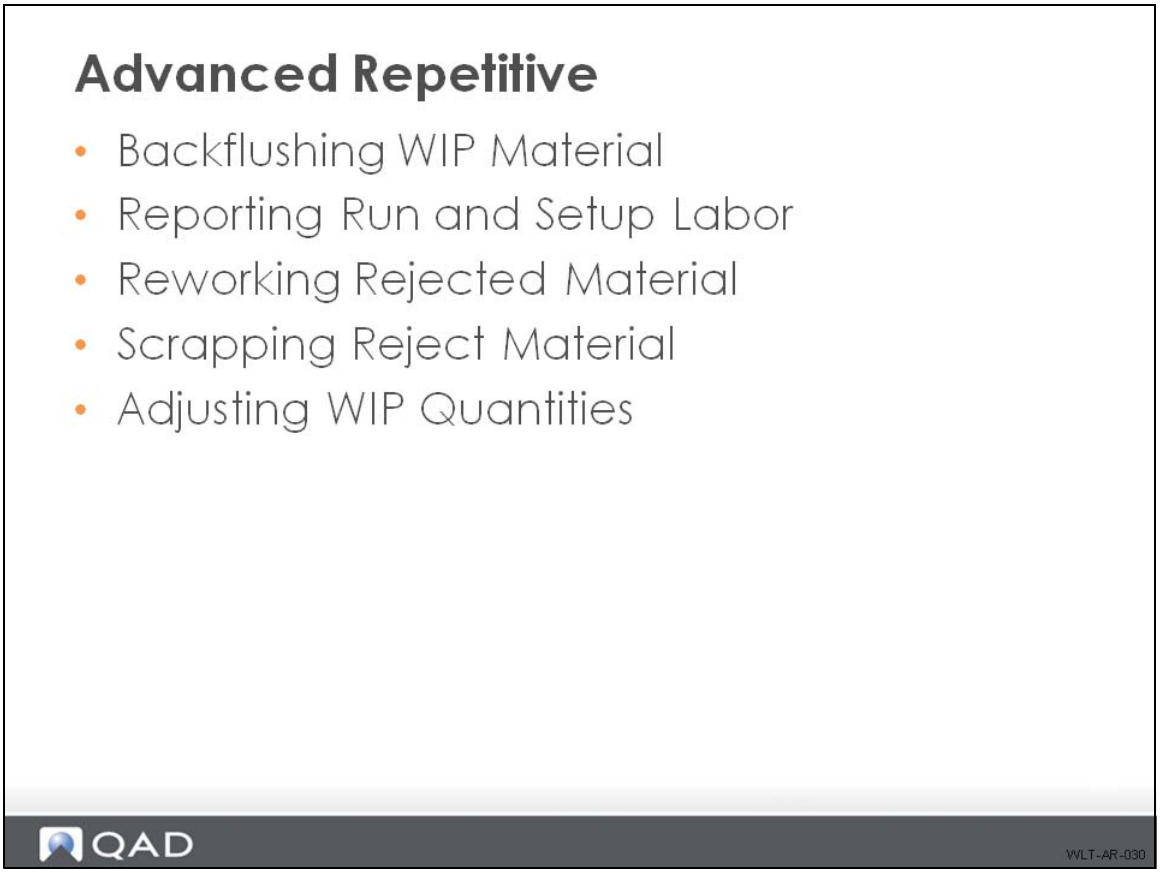
Chapter 6

WLT with Advanced Repetitive

Course Overview



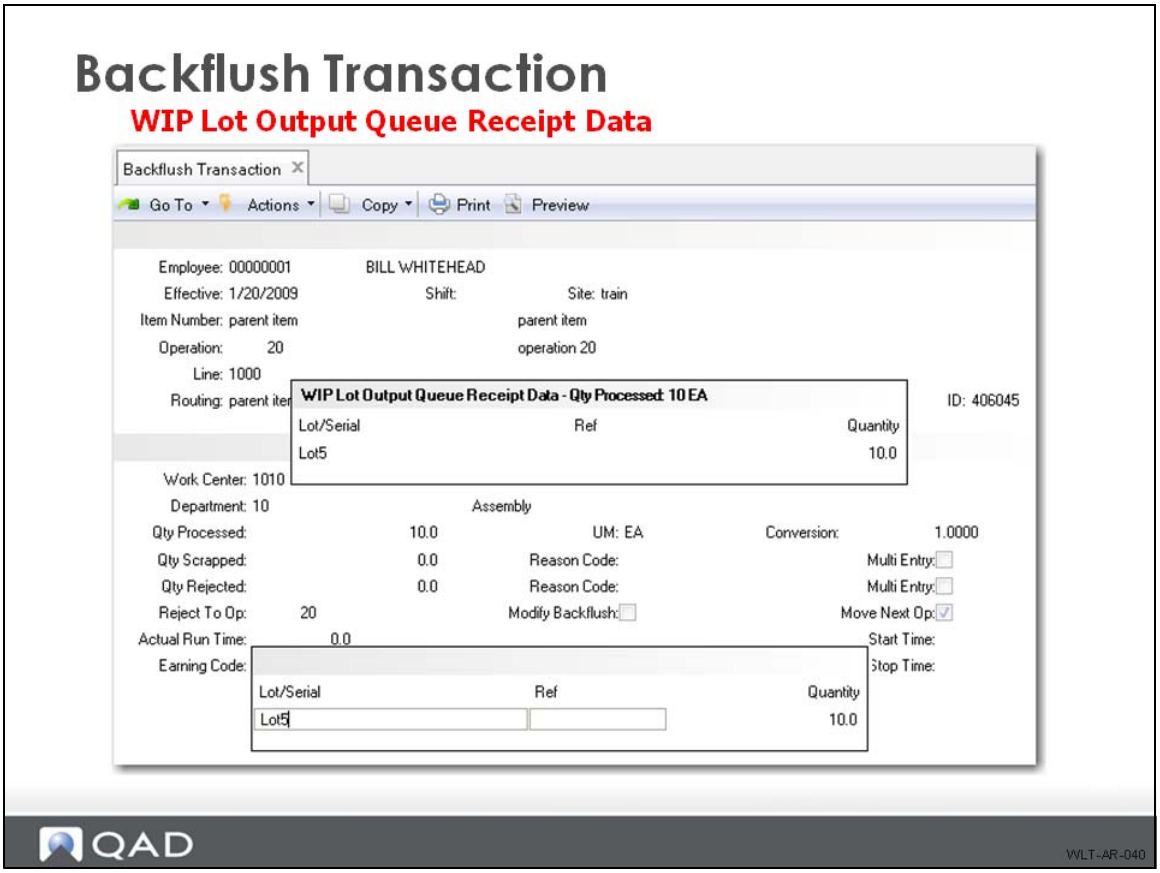
Advanced Repetitive



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

- WLT has been enabled

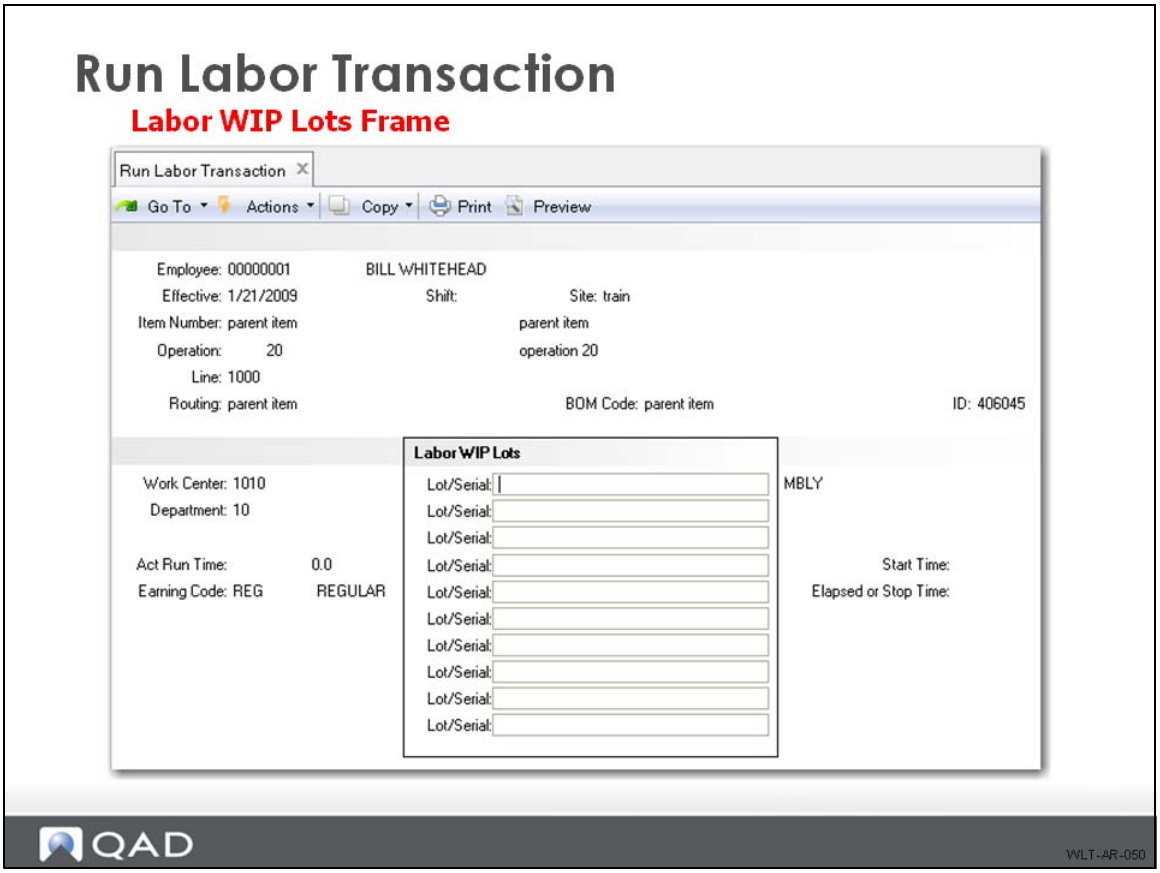
Backflush Transaction (18.22.13)



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 (18.22.14)

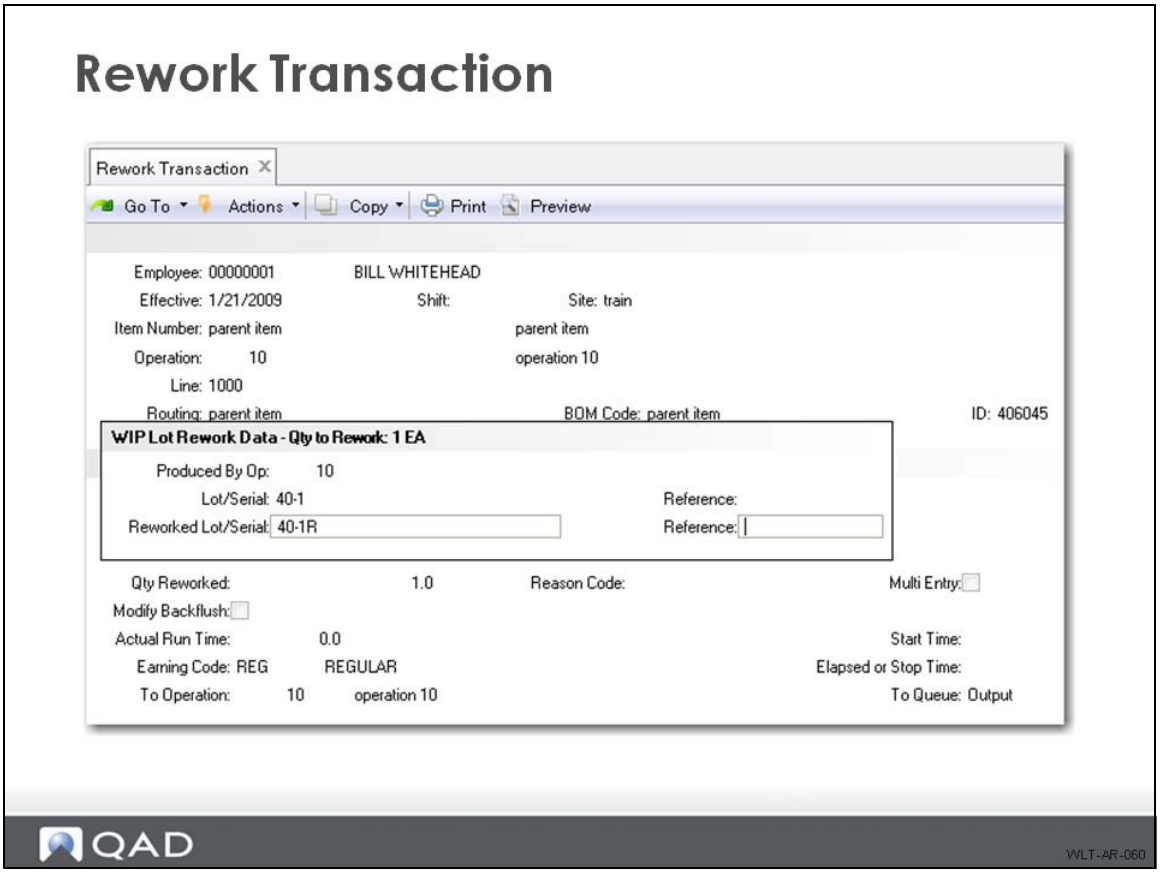


Use Run Labor Transaction to report labor performed for WLT controlled lot/serial numbers. You do this using the WLT data collection frame:

- Labor WIP Lots

Note Setup Labor Transaction (18.22.15) works similarly.

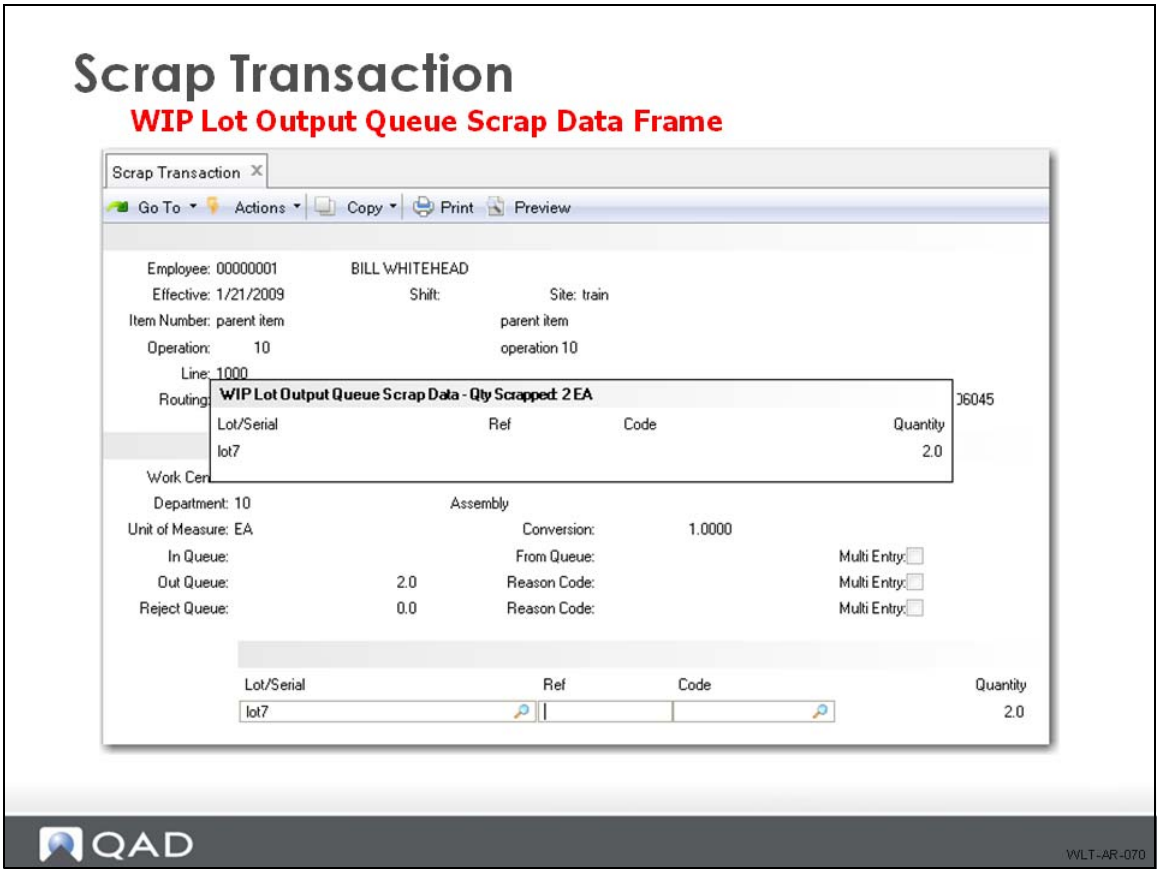
Rework Transaction (18.22.17)



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 (18.22.18)

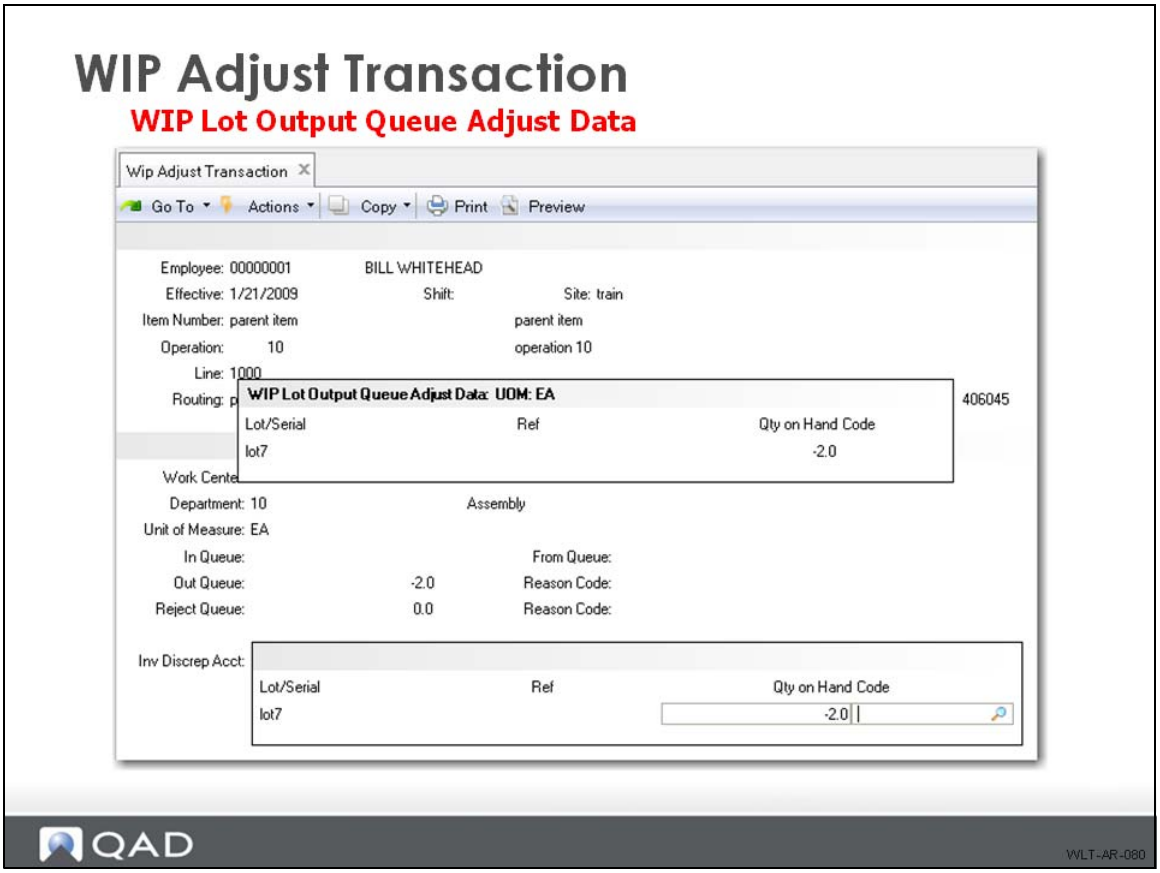


Use Scrap Transaction to scrap or remove WIP quantities from any queue of an operation without backflushing. Depending on which queue you are scrapping material from, one or more of the following WLT data collection frames will appear:

- 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 Rjct 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 (18.22.21)



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 Rjct Queue fields are not available. You must enter the WLT data collection frames to enter adjustments to QOH balances for the WIP lot/serials in each queue.

Exercise: Advanced Repetitive

Important The data used in these exercises might not be the same as the data shown in the screen captures in this lesson. In an exercise, if a field is not listed, you can accept the default value or leave it blank.

Backflush

Backflush the first operation of your parent item's routing. Then you will be prompted to enter the lot numbers of the WIP that was produced by the material conversion event.

Note Because this is the first operation, you are not prompted for input WIP lot/serials to consume.

1 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	500
Operation	10
Line	1000
Qty Processed	3

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

_____

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

Field	Data
Quantity	3
Location	100
Lot/Serial	L1

Note Ignore any warning message. 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	10-1
Ref	<leave blank>
Qty	1

Create a second entry by entering the following:

Field	Data
Lot/Serial	10-2
Ref	<leave blank>
Qty	2

View Tracing Data

1 Review the operation transaction detail. It should show your last transaction first (BACKFLSH). It will be the default.

Use Operation Trans Detail Inquiry (18.22.4.2)

2 Advance to the WIP Lot Trace Data frame.

The data displayed shows the material lots consumed and produced as a result of your backflush transaction.

Note The WIP material will be listed with an item number the same as the parent item number.

3 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.

Use WIP Lot Convert Trans Report (3.22.13.15)

Note WIP Lot Convert Trans Report is called that because tracing data is recorded only when material is converted; such as fabricated, assembled, or reworked.

4 To print a WIP Lot Actual Bill Report enter the following:

Use WIP Lot Actual Bill Report (3.22.13.20)

Field	Data
Material Type (Item/WIP)	WIP
Item Number	<your parent item number>
Produced by ID	<cumulative order ID>
Produced by Op	10
Lot/Serial	10-1
To	10-2

5 Review the report taking note of the following.

a The component you backflushed as the level 1 line.

b The Qty value is the total quantity of this lot/serial that was consumed.

c Each level 1 line is followed by a level 2 line.

d The level 2 lines represent the material that was consumed to produce their respective level 1 lines.

e The Qty value is the quantity consumed into its respective level 1 line.

View WIP Lot Inventory

1 To view the on-hand balances, enter the following:

Use WIP Status Inquiry (18.22.12)

Field	Data
Effective	<accept the default>
Site	Train
Item Number	<your parent item number>
Operation	20
Line	1000

Note You had to view operation 20 because Move To Next Op in the Backflush Transaction was 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 To print the WIP Lot Inventory Status Report, enter the ID of the cumulative order in the ID and To fields.

Use WIP Lot Inventory Status Report (3.22.13.13)

4 Review the report. You will see the two WIP lots you entered in the Backflush Transaction.

Backflush

Backflush a WIP lot all the way through the rest of the routing in order to view the tracing data that is created.

1 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Operation	20
Line	1000
Qty Processed	1

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

Field	Data
Quantity	1
Location	100
Lot/Serial	L2

Note Ignore any warning message.

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

Field	Data
Lot/Serial	10-1
Ref	<leave blank>
Qty	1

4 Complete the transaction for operation 20

5 You are now going to do another backflush, using the same Employee and Site. Enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Item Number	<your parent item number>
Operation	30
Line	1000
Qty Processed	1

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

Field	Data
Quantity	1
Location	100
Lot/Serial	L3

Note Ignore any warning message.

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

Field	Data
Lot/Serial	20-1
Ref	<leave blank>
Qty	1

8 Advance to the WIP Lot Output Queue Receipt Data frame. Delete the default entry by doing the following:

a Click Next, cursor advances to quantity field.

b Click Delete.

c Confirm the delete.

9 In the WIP Lot Output Queue Receipt Data frame enter the following:

Field	Data
Lot/Serial	30-1
Ref	<leave blank>
Qty	1

10 Using the same Employee and Site, you are going to do another backflush. Enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Item Number	<your parent item number>
Operation	40
Line	1000
Qty Processed	1

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

Field	Data
Quantity	1
Location	100
Lot/Serial	L1

Note Ignore any warning message.

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

Field	Data
Lot/Serial	30-1
Ref	<leave blank>
Qty	1

13 Advance to the Receipt Data Input frame and enter the following:

Field	Data
Lot/Serial	FGL1

14 Complete the transaction by confirming that all data is correct.

View Tracing Data

View the tracing data created by the backflushes using the Lot Where-Used and Lot Actual Bill reports. This demonstrates traceability of component, WIP, and finished material lots throughout the entire routing.

1 Print a WIP Lot Where-Used report by entering the following:

Use WIP Where-Used Report (3.22.13.19)

Field	Data
Material Type (Item/WIP)	Item
Item Number	<first component item you backflushed>
Lot/Serial	L1
To	L1

2 Review the report taking note of the following:

- **a** The component you backflushed appears as the level 1 line.
- **b** The Qty value on that line is the total quantity of the lot/serial that was consumed.
- **c** The next several lines trace the flow of material as it is successively processed by each operation in the routing.

  For level 2 and greater lines, the Qty value displayed on each line is the quantity of the respective parent level material that was consumed into this material. For example, the Qty displayed on a level 5 line is the total quantity of the preceding level 4 line material that was consumed into it.

3 Print a WIP Lot Actual Bill report by entering the following:

Use WIP Lot Actual Bill Report (3.22.13.20)

Field	Data
Material Type (Item/WIP)	Item
Item Number	<parent item number>
Lot/Serial	FGL1
To	FGL1

4 Review the report taking note of the following:

a The finished material item log (FGL1) that you backflushed appears as a level 1 line.

b The Qty value is the total quantity of this lot/serial that was produced.

c This is followed by a level 2 line.

This represents the material and quantity consumed at operation 40 to produce the level 1 material.

d The level 2 line is followed by level 3 lines, which represent the materials and quantities consumed at operation 30, and so forth.

e You should be able to see how material (WIP and component) is consumed, starting with the parent lot FGL1 all the way to the component lots consumed at the first operation.

Run Labor Transaction

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

1 To record labor, enter the following:

Use Run Labor Transaction (18.22.14)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	500
Operation	10
Line	1000
Act Run Time	5

2 Advance to the Labor WIP Lots frame and enter 10-1 in the first Lot/Serial field.

3 Review the operation transaction detail. It should default to your last transaction (LABOR).

Use Operation Trans Detail Inquiry (18.22.4.2)

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 in order 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 To adjust the data, enter the following:

Use WIP Adjust Transaction (18.22.21)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	500
Operation	20
Line	1000

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 will be added or updated.

4 Advance to the WIP Lot Output Queue Adjust Data frame and repeat step 3.

5 Advance to the WIP Lot Reject Queue Adjust Data frame and repeat step 3.

6 Cycle back through the transaction. You should see your updated entries.

7 View the updated WIP lot/serial QOH balances.

Use WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13)

8 Review the operation transaction detail. It should default to your last transaction (WIPADJ-x).

Use Operation Trans Detail Inquiry (18.22.4.2)

9 Advance to the WIP Lot Processed frame.

This frame shows the WIP lot/serial that was adjusted by this transaction. Notice that there will be 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 To begin the scrap process, enter the following:

Use Scrap Transaction (18.22.18)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	500

Field	Data
Operation	20
Line	1000

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 2 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 View the updated WIP lot/serial QOH balances.

Use WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13)

6 Review the transaction history for your last transaction (SCRAP-x). (It will be the default.)

Use Operation Trans Detail Inquiry (18.22.4.2)

7 Advance to the WIP Lot Processed frame.

This frame shows the WIP lot/serial that was scrapped by this transaction. Notice that there will be 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 required, e.g., when Move Next Op is set to No in Routing Maintenance (14.13.1).

1 Enter the following:

Use Move Transaction (18.22.19)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	500
Operation	20
Line	1000
Qty to move	1

2 Advanced to the WIP Lot Move Data frame. Press the Lookup key to select a WIP lot/serial. Enter 1 in the Qty field.

Note Ignore any warning message.

3 View the updated WIP lot/serial QOH balances.

Use WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13)

Reject Transaction

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

1 To run the reject process, enter the following:

Use Reject Transaction (18.22.16)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number
Operation	20
Line	1000
Qty Rejected	1

2 Advance to the WIP Lot Reject Data frame and enter 20-1 in the Lot/Serial field. Enter 1 in the Qty field.

3 View the updated WIP lot/serial QOH balances.

Use WIP Status Inquiry (18.22.12) and WIP Lot Inventory Status Report (3.22.13.13)

Rework Transaction

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

1 To register the rework, enter the following:

Use Rework Transaction (18.22.17)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number
Operation	20
Line	1000
Qty Reworked	1

2 Advance to the WIP Lot Rework Data frame. In the Lot/Serial field enter 20-1 and in the Reworked Lot/Serial field enter 20-1R.

3 Review the operation transaction detail. It should default to your last transaction (REWORK).

Use Operation Trans Detail Inquiry (18.22.4.2)

4 Advance to the WIP Lot Processed frame.

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

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 that you have been working with.

1 To close the cumulative order, enter the following:

Use Cumulative Order Close (18.22.10)

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

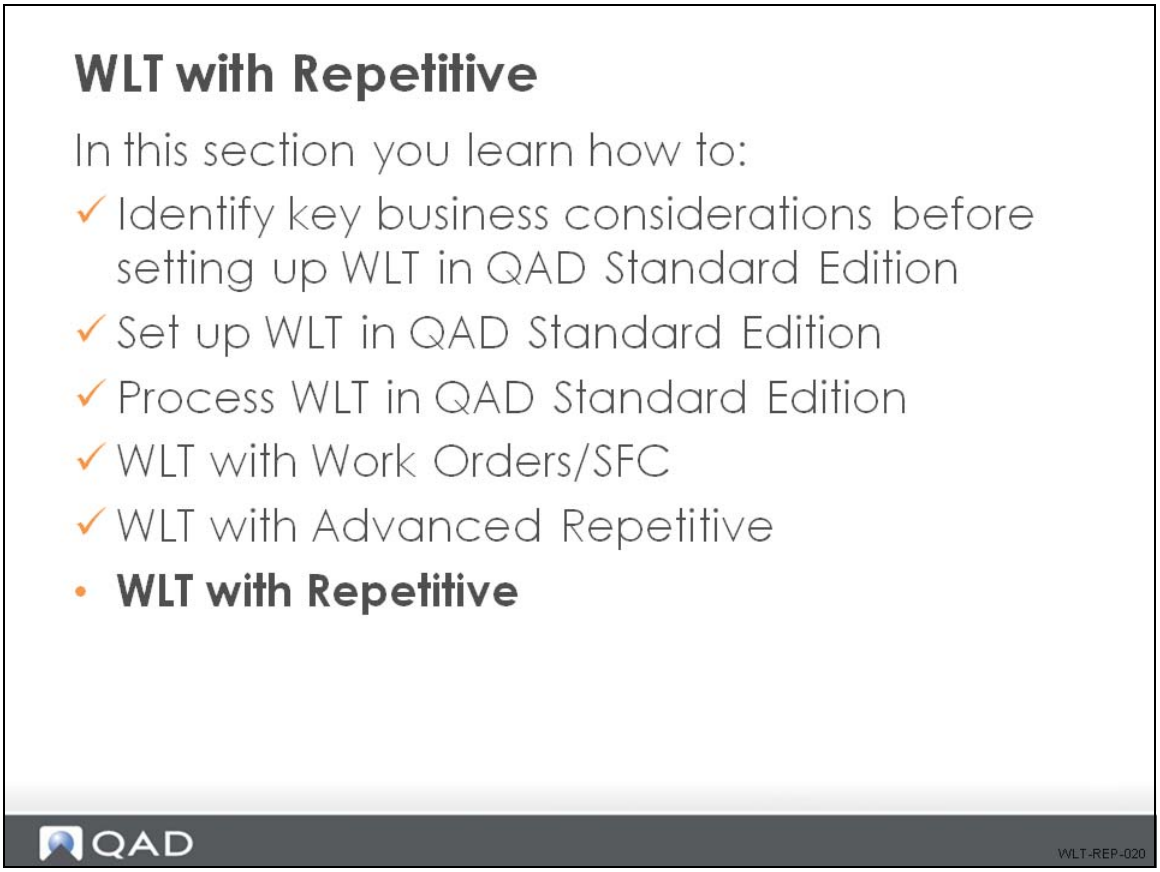
Note If you do not know the end effective date of your cumulative order, you can find it by running Cumulative Order Report (18.22.8).

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

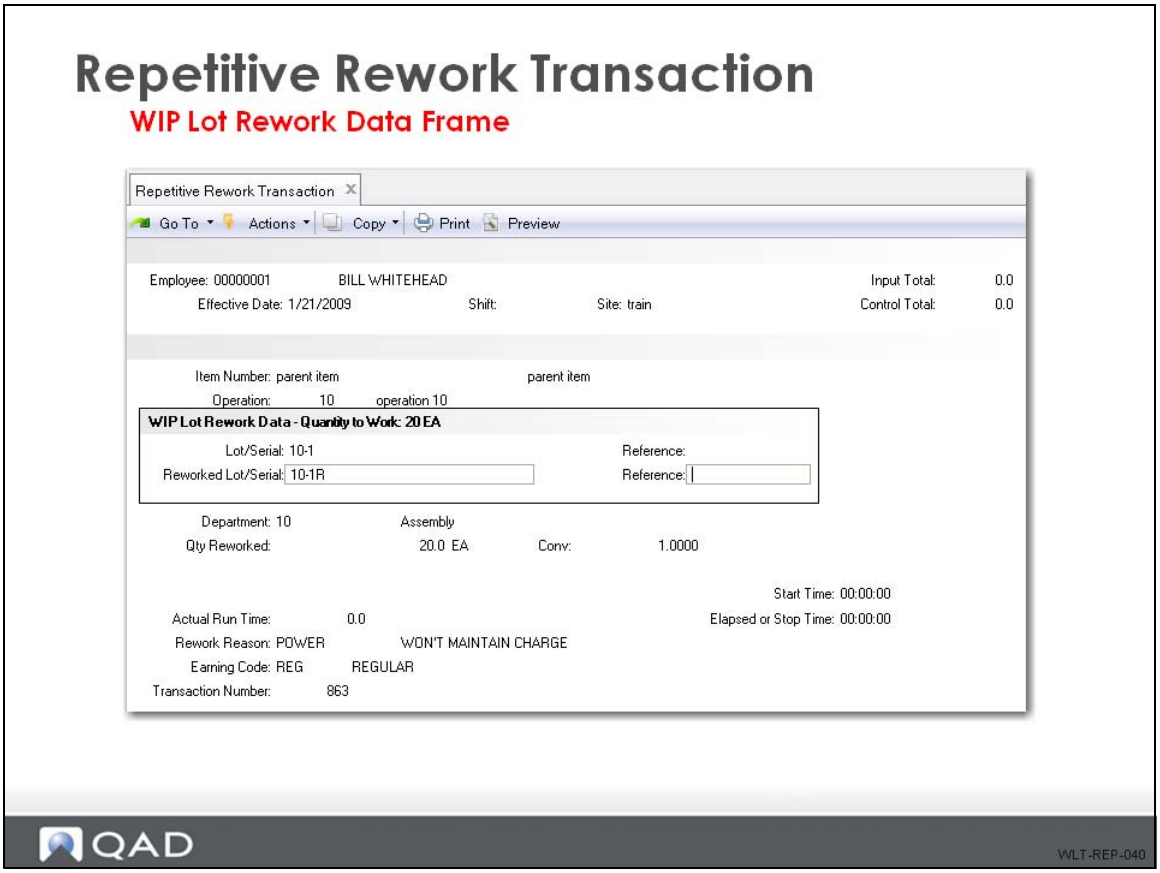


Repetitive

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

- WLT has been enabled

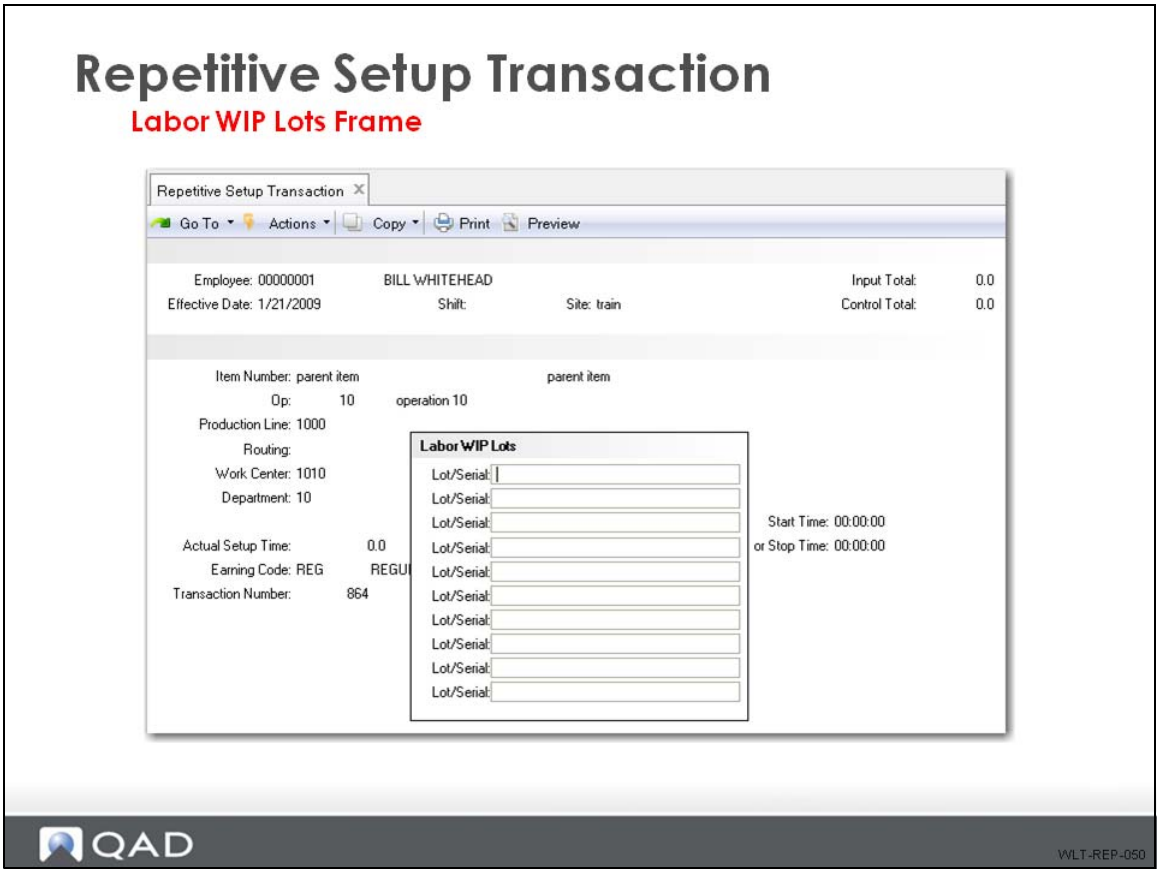
Repetitive Rework Transaction (18.16)



Use Repetitive Rework Transaction to do 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

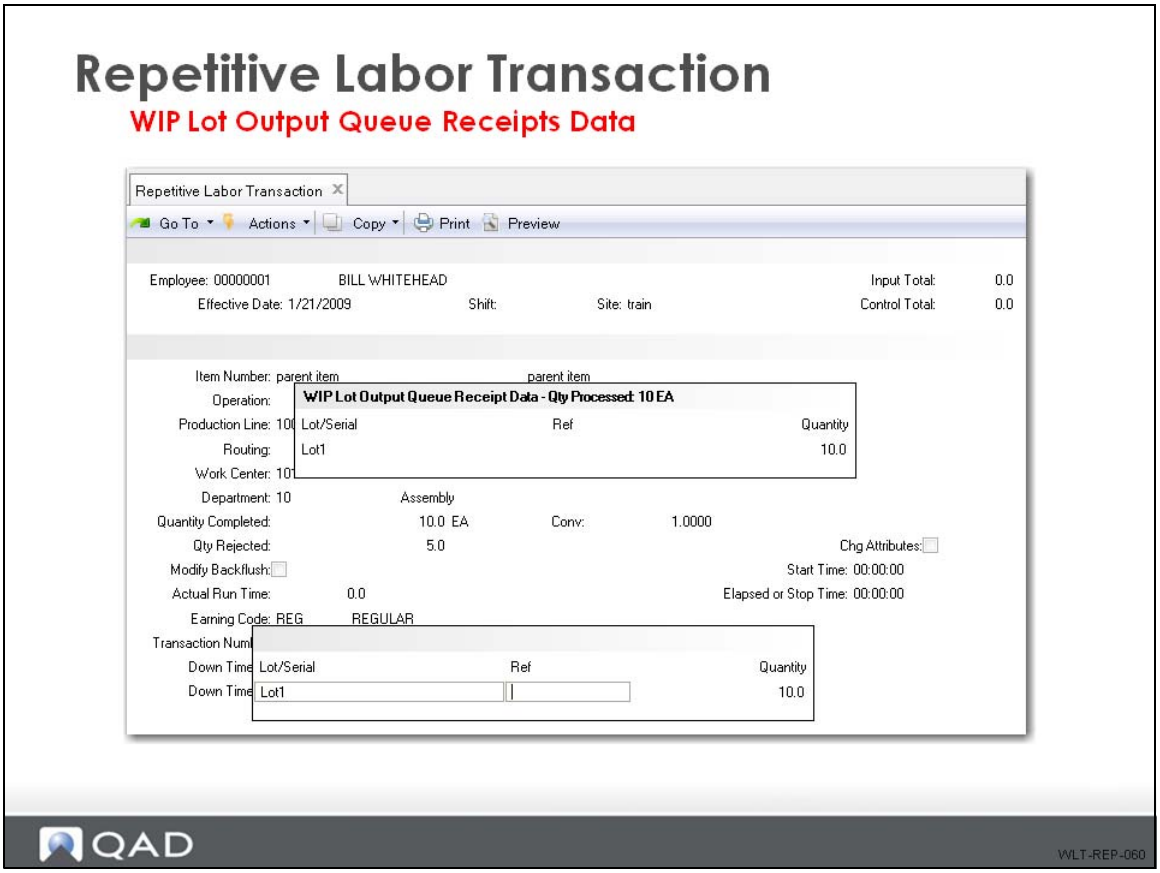
Repetitive Setup Transaction (18.13)



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

- Labor WIP Lots

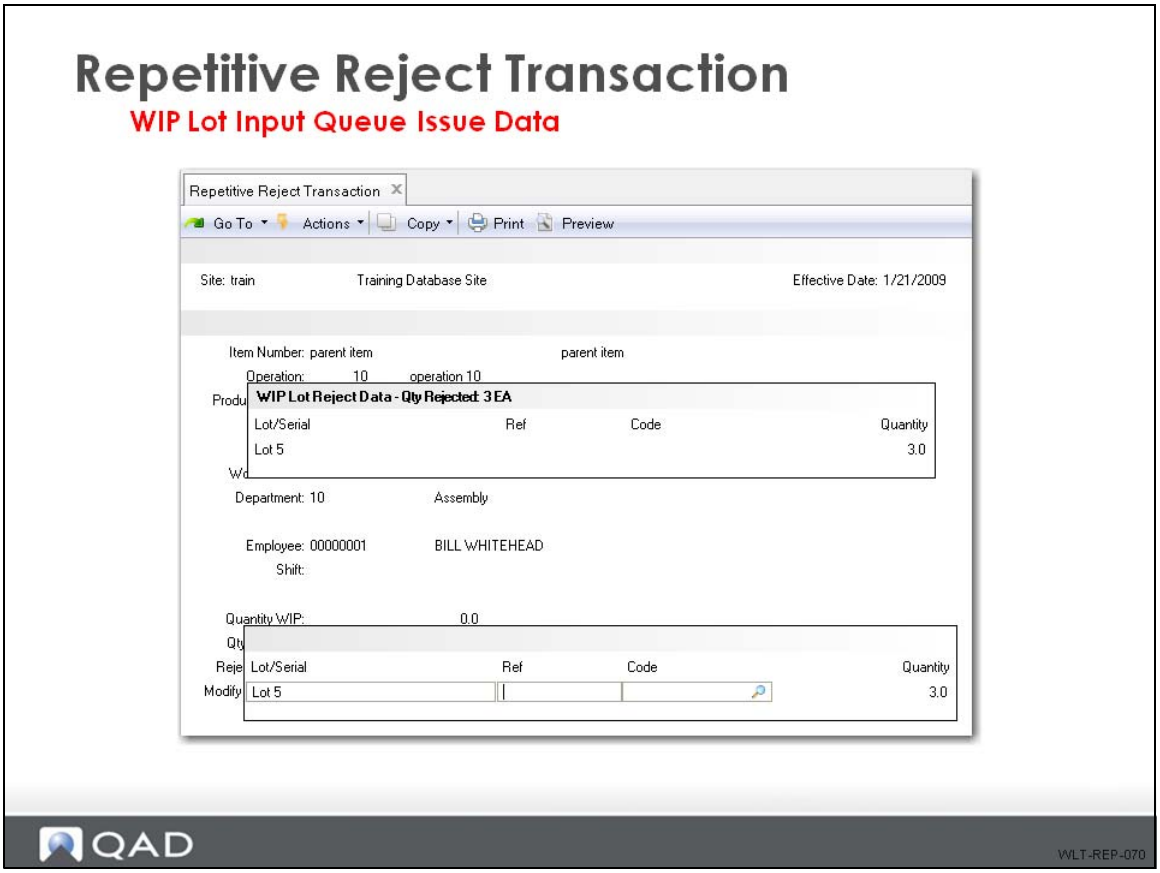
Repetitive Labor Transaction (18.14)



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 (18.17)



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

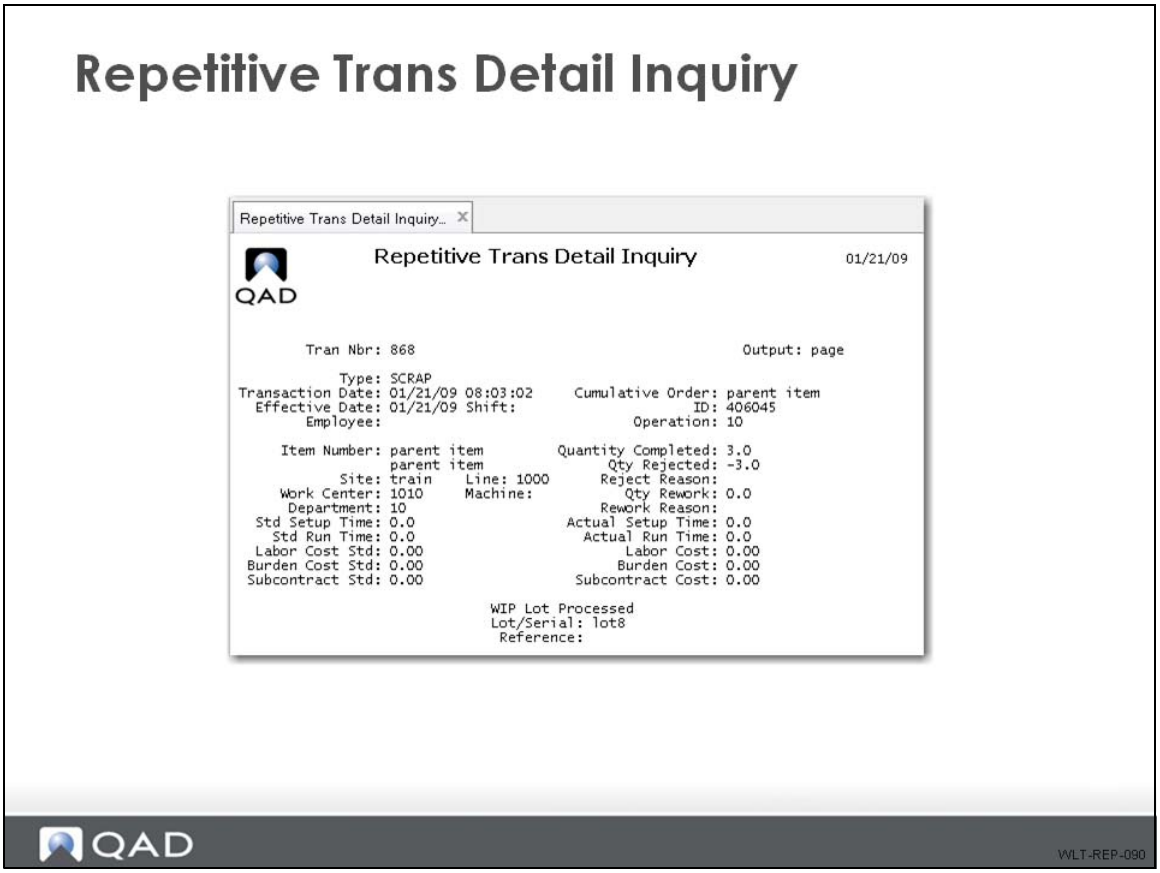
Repetitive Scrap Transaction (18.18)

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 (18.4.2)



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: Repetitive

Important The data used in these exercises might not be the same as the data shown in the screen captures in this lesson. In an exercise, if a field is not listed, you can accept the default value or leave it blank.

Setup

Before proceeding, you need to enable the system to use Repetitive. The first step will be to report all expired or open Advanced Repetitive cumulative orders. The next step will be to close them. The next step will be to delete them. The last step is to set the Control program such that Advanced Repetitive is no longer enabled.

1 Get a list of all cumulative orders and their end-effective dates.

Use Cumulative Order Report (18.22.8)

2 You need to close the cumulative order for each different end effective date.

Use Cumulative Order Close (18.22.10)

Field	Data
End Effective	<end effective date of the cumulative orders being closed>
Transfer WIP	No
Update	Yes

3 To delete the next cumulative order:

Use Cumulative Order Maintenance (18.22.6)

a Use the Down Arrow to select the next cumulative order.

b Press F2.

c Press F5.

4 Repeat this process for every cumulative order.

5 Turn off new repetitive by setting Enable New Repetitive to No.

Use Repetitive Control program (18.22.24)

Labor Transaction

Use this function to issue material and labor and record completions at the second operation. It is very similar in concept to the Advanced Repetitive Backflush Transaction.

1 To record labor feedback, enter the following:

Use Repetitive Labor Transaction (18.14)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Op	20
Production Line	1000
Qty Completed	3

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

Field	Data
Quantity	3
Lot/Serial	L1

Note Ignore any warning message.

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

Field	Data
Lot/Serial	10-1
Ref	<leave blank>
Qty	3

Note Ignore any warning message.

4 Advance to the WIP Lot Output Queue Receipt Data frame. Delete the default entry by doing the following:

   a Press the Down Arrow.

   b Press Enter.

   c Press Delete-button.

   d Confirm the delete.

5 In the WIP Lot Output Queue Receipt Data frame enter the following:

Field	Data
Lot/Serial	20-1
Ref	<leave blank>
Qty	3

6 Review the repetitive transaction detail. There will be two Operation History records created of type LABOR. Select the first one.

   Use Repetitive Trans Detail Inquiry (18.4.2)

7 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 will be prompted to enter the lot numbers of the WIP to which this reported labor will be associated.

Note Note this function is very similar to Run Labor Transaction (18.22.14) and Setup Labor Transaction (18.22.15).

1 To record setup labor against an operation, enter the following:

   Use Repetitive Setup Transaction (18.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Op	10
Production Line	1000
Actual Setup Time	5

2 Advance to the Labor WIP Lots frame and enter 10-1 in the first Lot/Serial field.

3 Review the repetitive transaction detail. It should default to your last transaction (LABOR).

   Use Repetitive Trans Detail Inquiry (18.4.2)

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 in order 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 will be placed in the Reject Queue of the operation, where it waits for disposition by the user (either scrap or rework).

1 To record the completions, enter the following:

Use Repetitive Reject Transaction (18.17)

Field	Data
Site	Train
Item Number	<your parent item number>
Operation	20
Production Line	1000
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	L1

Note Ignore any warning message.

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

Field	Data
Lot/Serial	10-1
Ref	<leave blank>
Qty	3

Note Ignore any warning message.

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

Field	Data
Lot/Serial	20-1
Ref	<leave blank>
Qty	3

5 Review the repetitive transaction detail. There will be two Operation History records created of type LABOR. Select the first one.

Use Repetitive Trans Detail Inquiry (18.4.2)

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. This shows the rejected WIP lot/serial entered above.

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 Run the WIP Lot Inventory Status Report by entering the cumulative order ID in the ID and To fields.

You can use the Lookup key to select the cumulative order ID.

Use WIP Lot Inventory Status Report (3.22.13.13)

9 Review the report. You will see 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 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 To change the rejected material back to good material, enter the following:

Use Repetitive Rework Transaction (18.16)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number
Operation	10
Production Line	1000
Qty Rework	3

2 Advance to the WIP Lot Rework Data frame. Enter 20-1 in the Lot/Serial field and in the Reworked Lot/Serial field enter 20-1R.

3 Review the repetitive transaction detail. It should default to your last transaction (LABOR).

Use Repetitive Trans Detail Inquiry (18.4.2)

4 Review the WIP Lot Processed frame. This lists the WIP lot/serial processed by this transaction.

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 entails reducing their QOH balances at the reject queue of the reporting operation.

1 To scrap the rejected material, enter the following:

Use Repetitive Scrap Transaction (18.18)

Field	Data
Site	Train
Item Number	<your parent item number>
Operation	10
Production Line	1000
Qty Scrapped	3

2 Advance to the WIP Lot Reject Queue Issue Data frame. Press the Lookup key 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 Review the repetitive transaction detail. It should show your last transaction (SCRAP) as the default.

Use Repetitive Trans Detail Inquiry (18.4.2)

4 Review the WIP Lot Processed frame. This shows the WIP lot/serial that was scrapped by this transaction. Note that there will be 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.

APPENDIX A

Workshops

Control and Registration

WIP Lot Number Sequence ID

Set this field, then run the Backflush Transaction to view how an automatic lot number can be generated.

1 To set up the number range, enter the following:

Use Number Range Maintenance (36.2.21.1)

Field	Data
Sequence ID	WLT
Description	<anything>
Target Dataset	<leave blank>
Internal	Yes
Allow Discarding	Yes
Allow Voiding	Yes

2 Advance to the Segment List frame and enter the following:

Field	Data
Nbr	1
Type	FIXED

3 The Fixed Segment Editor frame displays. Enter the following:

Field	Data
Fixed Value	WLT

4 In the Segment List frame create a second entry by entering the following:

Field	Data
Nbr	2
Type	INT

5 The Integer Segment Editor frame displays. Enter the following:

Field	Data
Minimum Value	0
Maximum Value	9999
Initial Value	0
Reset Value	9999

6 To create the sequence ID, in the WIP Lot Number Sequence ID field enter WLT.

Use WIP Lot Trace Control program (3.22.13.24)

Backflush

Note The following exercise requires Advanced Repetitive be enabled.

1 Check the setting of the Enable New Repetitive field. If it is set to No, set to Yes.

Use Repetitive Control program (18.22.24)

If you get the message “You must run rewocl.p before using this module. Please re-enter.” do the following:

a Run Cumulative Ord Accounting Close (18.9), accepting the defaults.

b Run Cumulative Order Maintenance (18.6). Using your Arrow keys, locate all cumulative orders and delete them.

c Change the Enable New Repetitive field to Yes.

Use Repetitive Control program (18.22.24)

2 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Operation	10
Line	1000
Qty Processed	3

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

Field	Data
Quantity	3
Lot/Serial	L1

Note Ignore any warning message.

4 Advance to the WIP Lot Output Queue Receipt Data frame. Leave Lot/Serial and Reference blank. When you proceed to Qty, Lot/Serial, it will default to the next sequence number for the indicated sequence id. Do not complete the transaction.

Note You can override this field by creating an entry in Routing Registration Maintenance (3.22.13.1).

Split WIP Lots

1 Change the Split WIP Lots field to No.

Use WIP Lot Trace Control program (3.22.13.24)

By setting this field to No, you prevent an input WIP lot from being processed into two or more output WIP lots.

2 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Operation	20
Line	1000
Qty Processed	3

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

Field	Data
Quantity	3
Lot/Serial	L1

Note Ignore any warning message.

4 Advance to the WIP Lot Input Queue Issue Data frame and enter lot number L1, quantity 3.

5 Advance the WIP Lot Output Queue Receipt Data frame and change the quantity for L1 to 1. Also enter lot number L2, quantity 2.

You should see the message “ERROR: Cannot specify more than one WIP lot when splitting not allowed.” Do not complete the transaction.

The checking works across transactions also. For example, instead of trying to create output WIP lots L1 and L2 from input WIP lot L1 at the same time, you could have entered them in separate transactions. The second transaction would produce the error message. In this case, the error message occurs after entry of the WIP Lot Output Queue Receipt Data and appears as an overlay frame.

Note You can override this field by creating an entry in Routing Registration Maintenance (3.22.13.1).

Combine WIP Lots

Set this field to No and run the Backflush Transaction to view its effect. By setting this field to No, you prevent two or more input WIP lot from being processed into one output WIP lot.

1 Set the following control fields:

Use WIP Lot Trace Control program (3.22.13.24)

Field	Data
Split WIP Lots	Yes
Combine WIP Lots	No

2 To run the backflush transaction, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train

Field	Data
Item Number	<your parent item number>
Operation	20
Line	1000
Qty Processed	3

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

Field	Data
Quantity	3
Lot/Serial	L1

Note Ignore any warning message.

4 Advance to the WIP Lot Input Queue Issue Data frame and enter lot number L1, quantity 1, and lot number L2, quantity 2.

You should see the message “ERROR: Cannot specify more than one WIP lot when combining not allowed.” Do not complete the transaction.

The checking works across transactions also. For example, instead of trying to enter input WIP lots L1 and L2, you could have entered them in separate transactions. The second transaction would produce the error message. In this case, the error message occurs after entry of the WIP Lot Output Queue Receipt Data and appears as an overlay frame.

Note You can override this field by creating an entry in Routing Registration Maintenance (3.22.13.1).

WIP Lot Overissue

Set WIP Lot Overissue to No and run the Backflush Transaction to view its effect. By setting this field to No, you prevent QOH balances for WIP lots from becoming negative.

Note This is similar to Overissue in Inventory Status Code Maint (1.1.1).

1 Set the following control fields:

Use WIP Lot Trace Control program (3.22.13.24)

Field	Data
Combine WIP Lots	Yes
WIP Lot Overissue	No

2 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Operation	20
Line	1000
Qty Processed	3

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

Field	Data
Quantity	3
Lot/Serial	L1

Note Ignore any warning message.

4 Advance to the WIP Lot Input Queue Issue Data frame and enter lot number L100, quantity 3.

You should see the message “ERROR: Quantity on hand will become negative Op/Queue/Lot/Ref 20/Input/L100/. Please re-enter.” Do not complete the transaction.

Note

- All queues are checked to see if the transaction would result in any negative WIP lot QOH balances (e.g., output queue WIP lots for reversing backflushes)
- You can override this field by creating an entry in Routing Registration Maintenance (3.22.13.1)

Combine Component Lots

Set the Combine Component Lots field to No and run the Backflush Transaction to view its effect. By setting this field to No, you prevent more than one lot of a particular component item from being consumed into a particular WIP lot.

1 Set the following control fields:

Use WIP Lot Trace Control program (3.22.13.24)

Field	Data
WIP Lot Overissue	Yes
Combine Component Lots	No

2 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Operation	10
Line	1000
Qty Processed	3

3 Advance to the Issue Data Input frame. Set Multi Entry to Yes.

4 Advance to the Issue Detail frame.

a Delete the default entry.

b Enter two different lots for one component item.

5 Advance to the WIP Lot Output Queue Receipt Data frame, enter lot number L11, quantity 3.

You should then see the message “ERROR: Lots would be combined. Please re-enter.” and an overlay frame listing the component lots that are combined and into which output WIP lots they are being combined into. Do not complete the transaction.

Note

- The checking works across transactions also. For example, you could have consumed a lot of the component into WIP lot L11 in one transaction, and the other lot of the component into WIP lot L11 in another transaction. In this case, the message and overlay frame would appear in the second transaction.
- You can override this field by creating an entry in BOM Registration Maintenance (3.22.13.4).

Lot Trace Start Op

Set this field to an operation other than the first and run the Backflush Transaction to view its effect.

1 Make sure all the Control program Yes/No fields are set to Yes.

Use WIP Lot Trace Control program (3.22.13.24)

2 Create an entry for the parent item. Set Lot Trace Start Op to 20.

Use Routing Registration Maintenance (3.22.13.1)

3 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Operation	10
Line	1000
Qty Processed	3

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

Field	Data
Quantity	3
Lot/Serial	L1

Note Ignore any warning message.

Note The WIP Lot Input Queue Issue Data frame does not appear. This is because the Lot Trace Start Op is the first operation at which lot/serial-controlled WIP material is produced.

Serialized WIP Start Op

Set this field to the second operation in your routing, then run the Backflush Transaction to view its effect. This causes WIP inventory on and after this operation to be serial-controlled which means:

- WIP QOH changes can only be –1, 0, or 1
- WIP QOH balances can only be 0 or 1
- In effect it is the same as setting the Lot/Serial Control field to S (Serial) in Item Master Maintenance 1.4.1

1 Make sure all the Control program Yes/No fields are set to Yes.

Use WIP Lot Trace Control program (3.22.13.24)

2 Create an entry for the parent item. Make sure all the Yes/No fields are set to Yes. Enter the following:

Use Routing Registration Maintenance (3.22.13.1)

Field	Data
Lot Trace Start Op	0
Serialized WIP Start Op	20

3 To run the backflush, enter the following:

Use Backflush Transaction (18.22.13)

Field	Data
Employee	<use your Down Arrow to select the first record>
Site	Train
Item Number	<your parent item number>
Operation	20
Line	1000
Qty Processed	3

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

Field	Data
Quantity	3
Lot/Serial	L1

Note Ignore any warning message.

5 Advance to the WIP Lot Input Queue Issue Data frame and enter lot L100 quantity 3.

Note Ignore any warning message.

6 Advance to the WIP Lot Output Queue Receipt Data frame and try to take the default entry.

You should see the message “ERROR: Change in QOH must be 1 or 0 or -1. Please re-enter.”

7 Delete the default entry and try to enter a quantity other than –1, 0, or 1.

You should see the same message. Do not complete the transaction.