Fitrix

Standard Routing User Guide

Version 5.40

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Chapter 1

Standard Routing Overview

Fitrix Standard Routing defines the process steps and resources needed to produce items. It is used in planning and production activities to indicate the process steps required to manufacture items. Together with Fitrix Bill of Material, it is the repository of standard product information used by other Fitrix applications to control activities in design, quoting, sales, production and costing.

This chapter is designed for readers who want to know how Fitrix Standard Routing is used to establish resources and routings. It describes the major functionality of Fitrix Standard Routing and provides descriptions of the features that are offered in the application.

Standard Routing Basics

An effective resource definition application should allow you to comprehensively identify all the enterprise resources needed to produce an item. It should also allow you to easily define the process steps required for production, and it should allow you to provide sufficient detail relative to process steps to clearly describe all the operations required.

These definitions should be available to all other areas within the enterprise to efficiently conduct business in engineering and design, quoting and proposal writing, production planning and operations, and cost accounting.

To address these requirements, the following features are included in Fitrix Standard Routing.

- Multiple resource definition
- Centralized standard operations
- User defined standard routing
- Bill of material integration
- Capacity requirements planning integration
- Production order processing integration
- Actual costing integration
- Standard costing integration
- Purchasing integration
- Consistent user interface
- Consistent menu organization

Multiple Resource Definition

Fitrix Standard Routing allows resources to be defined at multiple levels within the enterprise:

- Department - Usually the highest level. Typically a collection of work centers.
- Work Center - An intermediate level. Typically a collection of machines.
- Machine - Usually the most detailed level.
- Team - An independent collection of employees.

These resources can be utilized independently, or in a more defined hierarchy, as described above. This gives you ultimate control over the structure of your resources, for planning and scheduling purposes.

Centralized Standard Operations

Common or frequently used operations can be established in a standard operations table. These operations can identify resources required, standard descriptions, and expected setup and run times. Operations can then be 'assembled' as needed, during routing definition, into a series of routing steps. Establishing the standard operations before they are needed saves keystrokes during routing maintenance

User Defined Standard Routing

Each item which is produced can be assigned a list of required standard routing steps. The steps identify all the processes needed to complete production of an item. Each step contains the resources, description, and the standard times for setup, run and machine hours as well as detailed instructions to describe each process. Steps are entered in a user-defined sequence to ensure that processes are executed in the proper order. Production and planning applications use these routings to schedule work and analyze resource loads.

Note

In Fitrix you can attach the standard routing to a production order and then modify the routing to make it meet your specific needs for this order. The routing attached to the order is termed a 'soft routing', because you can change it and have no effect on the standard routing or other soft routings attached to other orders. If you want the soft routing to become the standard routing you must perform standard routing maintenance. Maintaining a standard routing has no effect on soft routings for existing production orders.

Bill of Material Integration

- Standard routings are entered for items already defined in Fitrix Bill of Material.
- Components in a bill of material can be linked to standard routing steps through the operation where used feature.

Capacity Requirements Planning Integration

- Standard routings are linked to planned orders from Fitrix Material Requirements Planning to generate planned order resource requirements in Fitrix Capacity Requirements Planning.

Production Order Processing Integration

- Standard routings are used to create 'soft routings' in Fitrix Production Order Processing.
- Actual production times are compared to standard routing for variance analysis.

Actual Costing Integration

- Hours and costs are applied to 'soft routings' on production orders.
- Costs are compared to standard routings costs for variance analysis and interfacing to accounting.

Standard Costing Integration

- Hours from the standard routings and rates from work centers are used to calculate standard labor and overhead costs of production.
- Standard routings can be transferred to create other routings for historical or simulated cost comparisons.

Purchasing Integration

- Routing steps defined as outside process are used to generate purchase orders that are linked to soft routings on production orders.

Consistent User Interface

All Fitrix applications share a common user interface that is designed to be intuitive and productive. This interface is achieved through development of standardized menus, screens, and reports that support a consistent look and feel.

Menu Organization

Fitrix Routing is presented in a standard menu format. Menu options are organized along the following format:

- File maintenance
- Inquiries
- Reports

Flow of Information

Fitrix Standard Routing works with an integrated database, where information entered is immediately available to all other Fitrix applications.

Master Tables

The master tables used in Standard routing are:

- Routing
- Work Center
- Department
- Operation
- Machine
- Team
- Applications Controls

These tables contain static information and dynamic information. Static information such as department information is defined at the time the application is installed. The table is rarely changed after its initial entry. Dynamic information such as the routing for an item changes as processes change.

Some tables are required and some information within the table is required. This section provides an overview of these tables. More detail can be seen in Chapter 3.

Routing
This table defines the operational steps needed to produce an item. It contains standard items and instructions for each step in the production process. Each item that is made repeatedly on production orders should have a routing defined in this table. If a standard routing is not defined, it can be created in the production order.

Work Center
This table defines the work centers where work is produced. Information about labor costs and overhead rates are kept in this table. The standard time in the routing and the costs in the work center provides information for the standard cost system. This table also includes valuable scheduling information such as the amount of queue time an item waits before being worked on. It also keeps track of how much capacity is available for work in a work center. Rows in this table are the default for all work center/warehouse combinations defined in the system. You can define a work center for a specific warehouse in the work center/warehouse table. The work center table is required if routings are used.

Department
This table is similar to the work center except it does not contain cost information. It is used for scheduling work. It also contains account number defaults used when charging labor and overhead to a production order. Rows in this table are the default for all warehouses defined in the system. You can define a department for a specific warehouse in the department/warehouse table. This table is optional.

Operation
This table contains the individual steps used in the manufacturing process. The information in this table is exactly the same as the information found in a routing table. If standard steps are first defined in this table it is very easy to construct a routing. All you need to do in the routing table is enter the sequence number (required) and operation identifier. The system will then take the operation identifier from this table and copy it into the routing table. The same operation from this table can be used many times in different routings. This table is optional.

Machine
This table is used to define and store scheduling information about each machine. This information is used in the routing steps to define the machine to be used in that step. Production schedules and capacity can be analyzed by machine. Rows in this table are the default for all machine/warehouse combinations defined in the system. You can define a machine for a specific warehouse in the machine/warehouse table. This table is optional.

Team
This table is used to define and store scheduling information about each production team. A team is a collection of workers. Production schedules and capacity can be analyzed by team. This information is used in the routing steps to define the team to be used in that step. Rows in this table are the default for all team/warehouse combinations defined in the system. You can define a team for a specific warehouse in the team/warehouse table. This table is optional.

Work Center
This table is identical to the work center table except that you are required to enter a warehouse for which this work center applies. A copy function is provided to allow you to easily copy work center data into a new work center/warehouse row.

Department
This table is identical to the work team table except that you are required to enter a warehouse for which this team applies. A copy function is provided to allow you to easily copy department data into a new department/warehouse row.

Team
This table is identical to the team table except that you are required to enter a warehouse for which this team applies. A copy function is provided to allow you to easily copy team data into a new team/warehouse row.

Machine
This table is identical to the machine table except that you are required to enter a warehouse for which this machine applies. A copy function is provided to allow you to easily copy machine data into a new machine/warehouse row. This table is optional.

Alternate Work Center
The system provides for alternate work centers to be defined. Alternates may be defined globally, or for specific produced items. Multiple alternates can be defined for the same primary work center. This table is optional.

Alternate Department
The system provides for alternate departments to be defined. Alternates may be defined globally, or for specific produced items. Multiple alternates can be defined for the same primary work center. This table is optional.

Alternate Team
The system provides for alternate teams to be defined. Alternates may be defined globally, or for specific produced items. Multiple alternates can be defined for the same primary work center. This table is optional.

Alternate Machine
The system provides for alternate machines to be defined. Alternates may be defined globally, or for specific produced items. Multiple alternates can be defined for the same primary work center. This table is optional.

Inquiries

Work Center Where Used
This inquiry provides you with a list of all the items that have routings containing a specific work center.

Machine Where Used
This inquiry provides you with a list of all the items that have routings containing a specific machine.

Operation Where Used
This inquiry provides you with a list of all the items that have routings containing a specific operation.

Reports

Routing List
This report provides you with a list of the routing steps defined for specific items.

Work Center Where Used
This report provides you with a list of all the items that have routings containing a specific work center.

Machine Where Used
This report provides you with a list of all the items that have routings containing a specific machine.

Operation Where Used
This report provides you with a list of all the items that have routings containing a specific operation.

Chapter 2

Standard Routing Setup

This chapter addresses the procedures necessary to set up the Fitrix Standard Routing application. The following steps are included in setup:

- Setup standard routing
- Work center maintenance
- Machine maintenance
- Department maintenance
- Team maintenance
- Operation maintenance
- Routing maintenance

Overview of Standard Routing Setup

To effectively use the information available in a standard routing it is helpful to establish resource control information in several master tables within Fitrix Standard Routing. Routing steps can then refer to these resources. This enables inquiries and reports by resource to provide sufficient levels of detail.

In addition to resource setup, the application control function is used to activate or deactivate specific features within Fitrix Standard Routing.

The steps covered in this chapter should be completed in the sequence shown.

Standard Routing - Implementation Checklist

The following steps are recommended in order to implement the Standard Routing application.

1. Setup Standard Routing (Required)

   Enter the following: Default Routing Step Type

   - L = Labor-based
   - M = Machine-based

   This code will be the default when routing steps are added to an item. If a routing step is labor-based, the open labor hours are used for scheduling. If a routing step is machine based, the open machine hours are used for scheduling.

2. Work Center Maintenance (Required)

   Enter one or more work centers. Work centers can be treated as subsets of departments. Scheduling and capacity analysis can be performed by work center. Work centers also carry standard rates for labor and overhead costs.

3. Machine Maintenance (Optional)

   Enter one or more machines. Machines can be treated as subsets of work centers. Scheduling and capacity analysis can be performed by machine.

4. Department Maintenance (Optional)

   Enter one or more departments. Departments in Standard Routing are not directly related to G/L Departments in Fitrix. Standard Routing departments support scheduling and capacity analysis at a departmental level.

5. Team Maintenance (Optional)

   Enter one or more teams. Teams are typically collections of workers performing a task or group of tasks together. Scheduling and capacity analysis can be performed by team.

6. Operation Maintenance (Optional)

   Enter one or more standard operations. Operations are frequently performed processes (i.e. the same work center, machine, setup hours, run hours) which can be established once, then 'pulled into' routing steps for an item, during Routing Maintenance.

7. Routing Maintenance (Required)

   Enter one or more routing steps for each item for which a standard routing is needed.

Chapter 3

File Maintenance

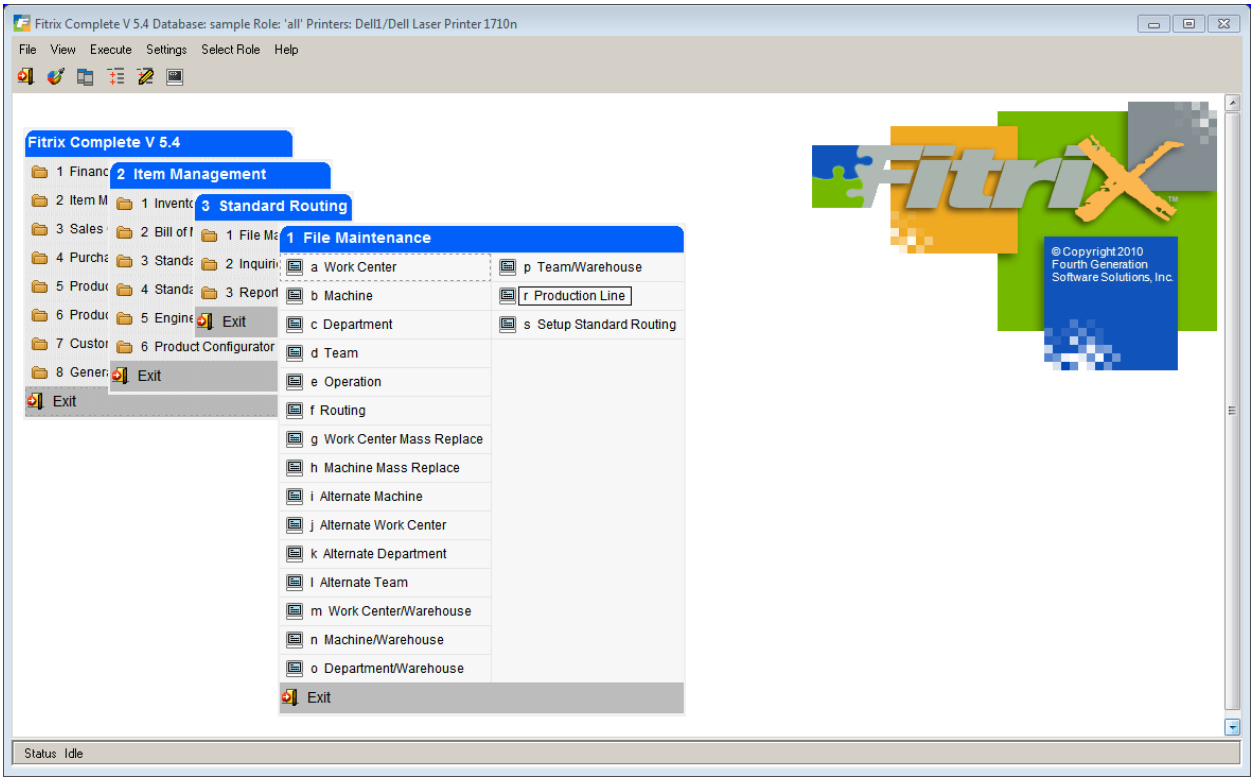
A routing is a series of steps detailing the method of manufacture for an item. Use this option to define the routing steps that are required to manufacture an item.

A routing includes the operations to be performed, their sequence, the various resources involved, and standards for setup time and run time. It can also include information on tooling, skill levels, inspection operations, testing requirements, etc.

The routing information is used in the Production Scheduling, Production Planning, Standard Costing, and Actual Costing applications.

Routing Maintenance

Use this option (2-a) to enter or modify routings and various resources.

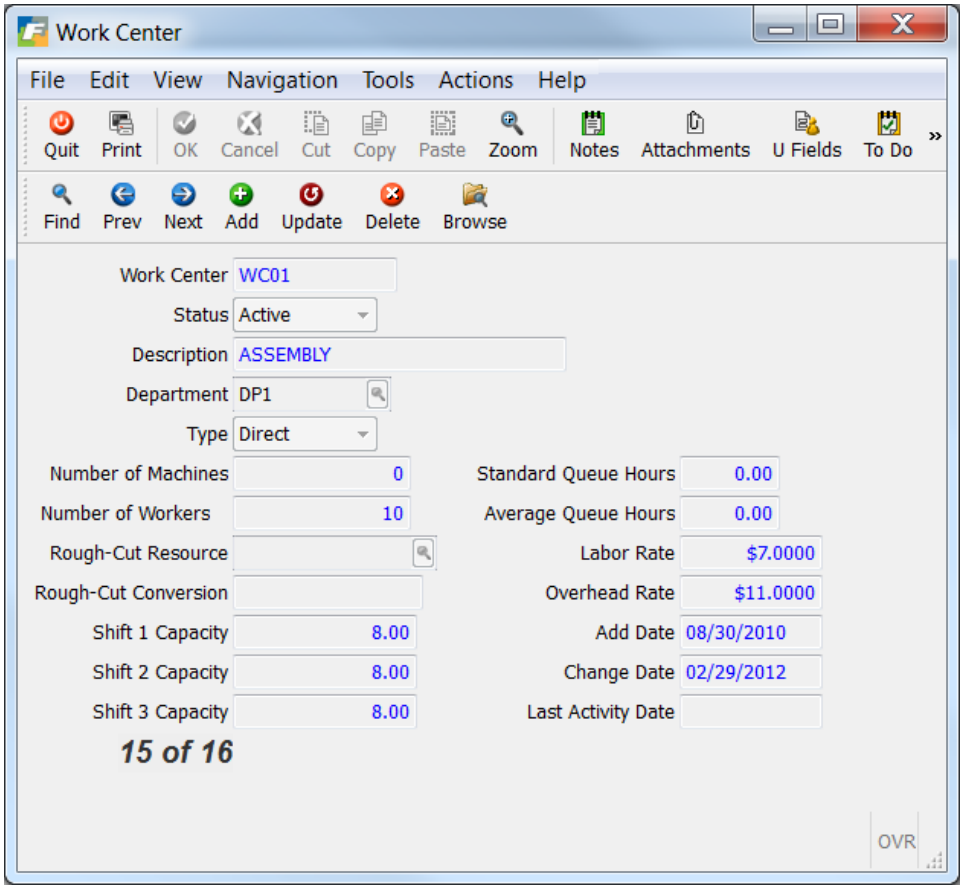


Work Center Maintenance

Work centers entered using this menu option will apply to all warehouses in the system.

A work center is a specific production facility consisting of one or more people and /or machines with similar characteristics. They can be considered a group for purposes of capacity requirements planning, standard and actual costing, and detailed scheduling.

Use this option (2-a) to enter or modify work center information.



Work Center (*Required)*

The identifier of the work center.

Status (*Required)*

Active (default value) indicates that this work center is active. An active work center will be used in the scheduling and costing routines. Time can be reported against routing steps in an active work center.

Inactive indicates that this work center is inactive. No transactions or processing can be performed for an inactive work center.

Description (*Required)*

The 25 character description for this work center.

Department

The identifier of the department with which this work center could be associated. To view a list of departments, click on the magnifying glass.

Type (*Required)*

Direct (default value) -indicates that costs incurred in this work center are normally direct labor.

Indirect - indicates that the costs incurred in this work center are normally indirect labor.

Subcontract - indicates that the costs incurred in this work center are normally subcontract labor.

Number of Machines

The number of machines in this work center. This number is used as a general reference.

Number of Workers

The number of workers in this work center. This number is used as a general reference.

Rough Cut Resource

Enter the resource identifier if this work center is to be considered a critical resource in Fitrix Master Schedule planning.

Rough Cut Conversion

If the unit of measure for this work center differs from the unit of measure for the resource identifier in Fitrix Master Schedule planning, enter the conversion factor to the resource unit of measure.

Capacity in Hours/Day

Shift 1
This is the standard capacity of the work center in hours per day for the first shift.

Shift 2
This is the standard capacity of the work center in hours per day for the second shift.

Shift 3
This is the standard capacity of the work center in hours per day for the third shift.

Standard Queue Hours

The standard (expected) amount of time, in hours, a job waits at a work center before setup or work is performed on the job. This is one element of total manufacturing lead time.

Average Queue Hours

The average amount of time, in hours, a job waits at a work center before setup or work is performed on the job.

Labor Rate

The labor rate for this work center. This labor rate is used when calculating the current standard cost of an item. Setup hours and labor hours can use this rate to calculate setup and labor costs.

Overhead Rate

The overhead rate for this work center. This overhead rate is used when calculating the current standard cost of an item. Setup hours, labor hours and machine hours can use this rate to calculate standard overhead costs.

Date Added *Display Only*

The date that this record was added to the table.

Change Date *Display Only*

The last date that this item was changed.

Last Activity Date *Display Only*

The last date that activity was posted to this work center.

Machine Maintenance

Machines entered using this menu option will apply to all warehouses in the system. See "Machine/Warehouse Maintenance" to enter machine information for one specific warehouse.

Menu Selection:

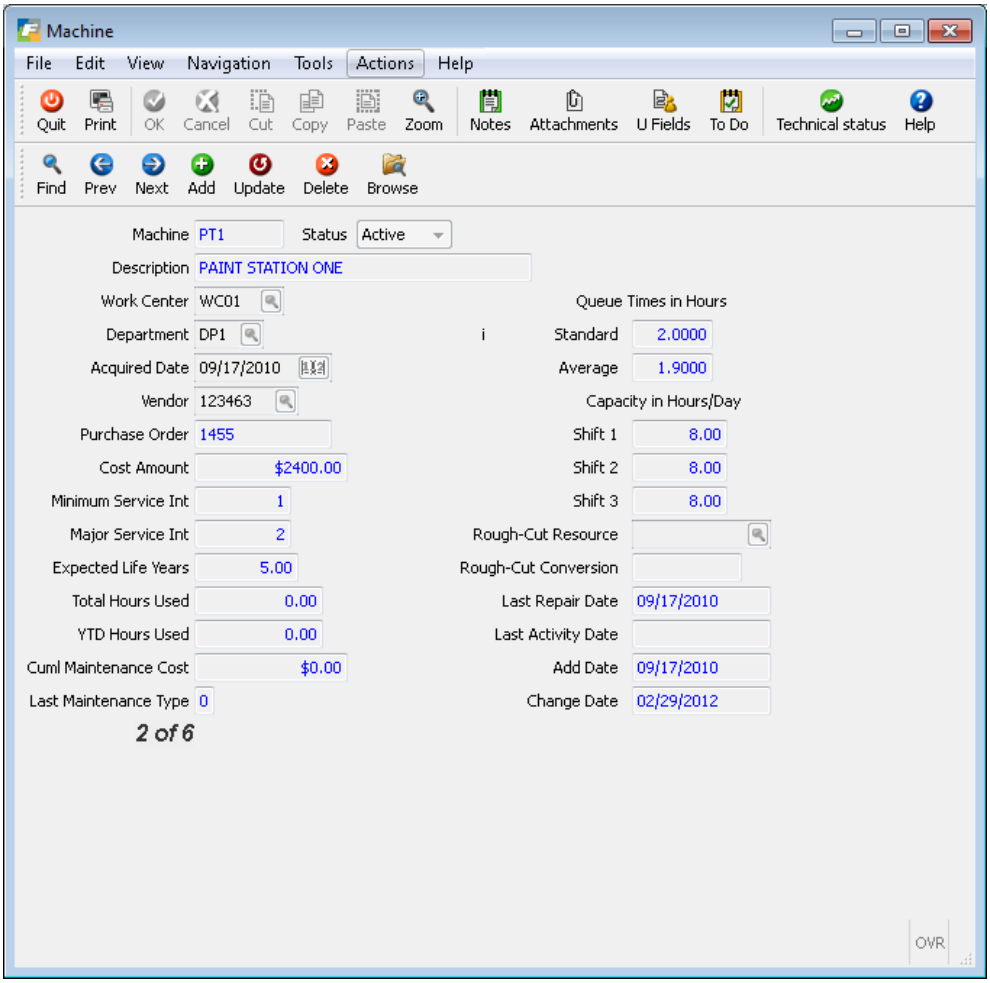
Item Management

Standard Routing

File Maintenance

Machine

Machine Maintenance



Machine identifier *Required*

The identifier for the machine that is being defined.

Status *Required* *Default*

Active - indicates that the status of this machine is active. An active machine will be used in the scheduling routines. Time can be reported against routing steps for an active machine.

Inactive - indicates that the status of this machine is inactive. No transactions or processing can be performed against an inactive machine.

Description *Required*

The identifier for the machine that is being defined.

Work Center *Required* *Zoom*

The identifier for the work center with which this machine could be associated. To view a list of work centers, click on the magnifying glass.

Department *Zoom*

The identifier for the department with which this machine could be associated. To view a list of departments, click on the magnifying glass.

Acquired Date

The date that this machine was put into service.

Vendor *Zoom*

The identifier for the vendor from which the machine was purchased. This field is for reference only. To view a list of vendors, click on the magnifying glass.

Purchase Order

The purchase order number that was used to buy this machine. This field is for reference only.

Cost Amount

The price paid to buy this machine. This field is for reference only.

Minimum Service Int.

The number of hours of run time between minor maintenance service. This field is for reference only.

Major Service Int.

The number of hours of run time between major maintenance service. This field is for reference only.

Expected Life Years

The number of years this machine is expected to be in service. This field is for reference only.

Queue Times in Hours

Standard

The standard (expected) amount of time, in hours, a job waits at a machine before setup or work is performed on the job. This is one element of total manufacturing lead time.

Average

The average amount of time, in hours, a job waits at a machine before setup or work is performed on the job.

Capacity in Hours/Day

Shift 1

This is the standard capacity of the machine in hours per day for the first shift.

Shift 2

This is the standard capacity of the machine in hours per day for the second shift.

Shift 3

This is the standard capacity of the machine in hours per day for the third shift.

Rough Cut Resource

Enter the resource identifier if this machine is to be considered a critical resource in Fitrix Master Schedule Planning.

Rough Cut Conversion

If the unit of measure for this machine differs from the unit of measure for the resource identifier in Fitrix Master Schedule Planning, enter the conversion factor to the resource unit of measure.

Machine Statistics

Total Hours Used *Display Only*

The number of hours this machine was used. This field is updated by the labor processing transactions.

YTD Hours Used *Display Only*

The number of hours this machine was used year to date. This field is updated by the labor processing transactions.

Cuml Maintenance Cost *Display Only*

The accumulated costs for maintenance since the machine was put into service.

Last Maintenance Type *Display Only*

This field is reserved for future use.

Last Repair Date *Display Only*

This field is reserved for future use.

Last Activity Date *Display Only*

The last date that this record was updated by transaction processing.

Add Date *Display Only*

The date that this record was added to the table.

Change Date *Display Only*

The date the machine was last changed by maintenance.

Department Maintenance

Departments entered using this menu option will apply to all warehouses in the system.

A department can be a collection of work centers. Departments are used in the Actual Costing application to generate the appropriate accounting entries to General Ledger. They are also used in Production Scheduling to analyze load and capacity at a departmental level.

Menu Selection:

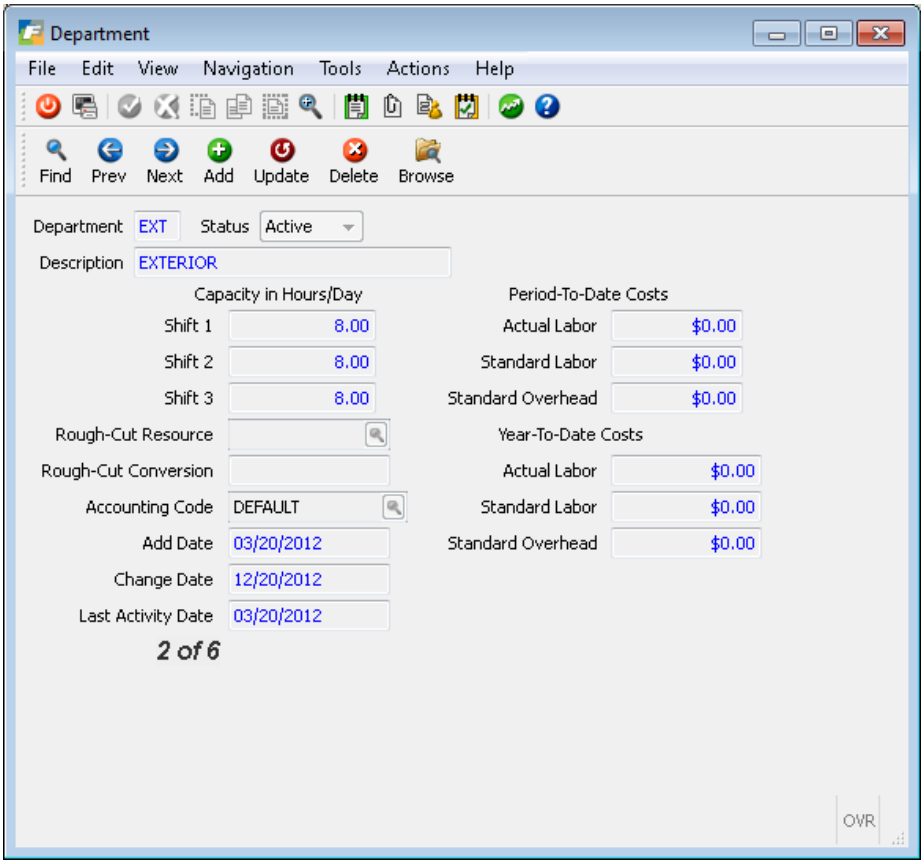
Item Management

Standard Routing

File Maintenance

Department

Department Maintenance



Department *Required*

The identifier for the department.

Status *Required* *Default*

Active indicates that this department is active. An active department will be used in the scheduling routines. Time can be reported against routing steps in an active department.

Inactive indicates that this department is inactive. No transactions or processing can be performed for an inactive department.

Description **Required**

The 25 character description for this department.

Accounts

Account Code

A code to assign general ledger account numbers to a department. The account code references a table that contains the general ledger account numbers. To view a list of account codes, click on the magnifying glass.

Rough Cut Resource

Enter the resource identifier if this department is to be considered a critical resource in Fitrix Master Schedule Planning.

Rough Cut Conversion

If the unit of measure for this department differs from the unit of measure for the resource identifier in Fitrix Master Schedule Planning, enter the conversion factor to the resource unit of measure.

Capacity in Hours/Day

Shift 1

The standard capacity of the department in hours per day for the first shift.

Shift 2

The standard capacity of the department in hours per day for the second shift.

Shift 3

The standard capacity of the department in hours per day for the third shift.

Period-to-Date Costs

Actual Labor *Display Only*

The total of all the actual labor costs for the department during the current period. This field will be set to zero during period end in the Actual Costing application.

Standard Labor *Display Only*

The total of all the standard labor costs for the department during the current period. This field will be set to zero during period close in the Actual Costing application.

Standard Overhead *Display Only*

The total of all the standard overhead costs for the department during the current period. This field will be set to zero during period close in the Actual Costing application.

Year-to-Date Costs

Actual Labor *Display Only*

The total of all the actual labor costs for the department year to date. This field will be set to zero during year end close in the Actual Costing application.

Standard Labor *Display Only*

The total of all the standard labor costs for the department year to date. This field will be set to zero during year end close in the Actual Costing applications.

Standard Overhead *Display Only*

The total of all the standard overhead costs for the department year to date. This field will be set to zero during year end close in the Actual Costing applications.

System Dates

Add Date *Display Only*

The date that this department was added to the table.

Change Date *Display Only*

The date the department was last maintained.

Last Activity Date *Display Only*

The last date the department had activity reported against it.

Employee Team Maintenance

Employee teams entered using this menu option will apply to all warehouses in the system.
See"Team/Warehouse Maintenance" to enter employee team information for one specific warehouse.

Menu Selection:

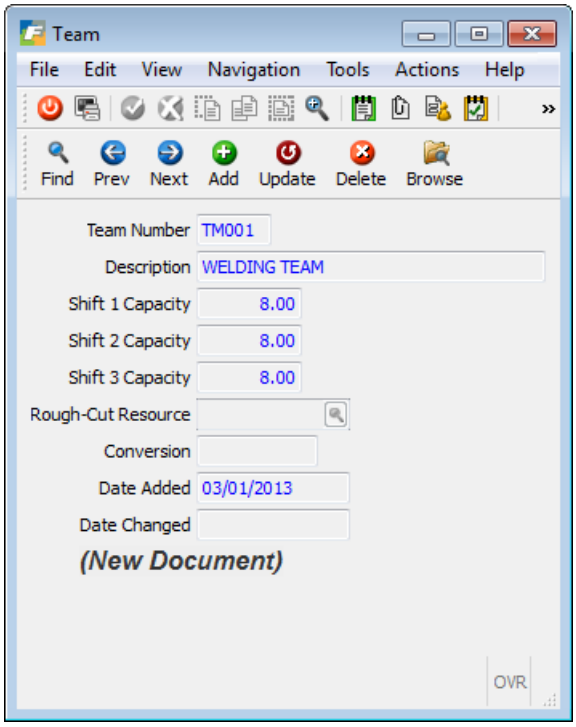
Item Management

Standard Routing

File Maintenance

Team

Employee Team Maintenance



Team Number *Required*

The identifier for the team that is being defined.

Description *Required*

The description for the team.

Capacity in Hours/Day

Shift 1

This is the standard capacity of the team in hours per day for the first shift.

Shift 2

This is the standard capacity of the team in hours per day for the second shift.

Shift 3

This is the standard capacity of the team in hours per day for the third shift.

Date Added *Display Only*

The date that this record was added to the table.

Rough Cut Resource

Enter the resource identifier if this employee team is to be considered a critical resource in Fitrix Master Schedule Planning.

Rough Cut Conversion

If the unit of measure for this team differs from the unit of measure for the resource identifier in Fitrix Master Schedule Planning, enter the conversion factor to the resource unit of measure.

Date Maintained *Display Only*

The date that this team was last maintained.

Operation Master Maintenance

Use this menu option to enter and maintain standard operation information.

An operation is the detail or description of an activity or operation to be performed. This could include setup instructions, operating instructions and required product specifications.

Operations can be keyed directly into the routing without using this table. Use this table if you have similar operations that occur in many different routings. It may be easier to set them up here and then simply key in the operation identifier in each of the routing steps that use this operation. The system will automatically retrieve the operation information from this table.

Menu Selection:

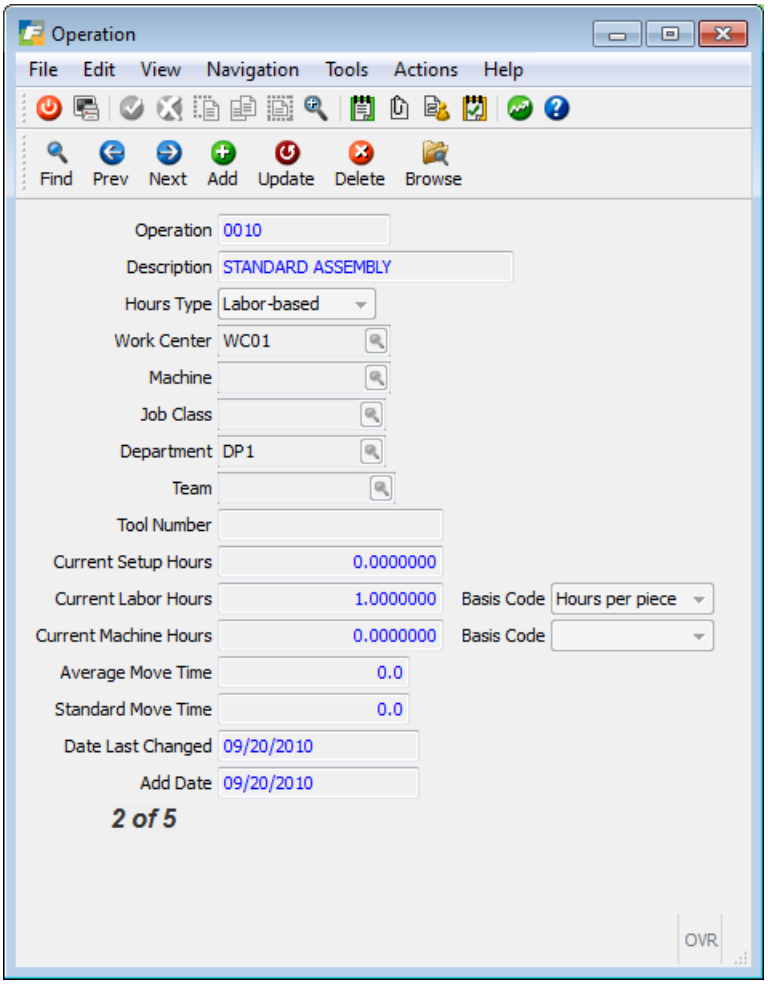
Item Management

Standard Routing

File Maintenance

Operation

Operation Master Maintenance



Operation *Required*

The identifier for the operation.

Description *Required*

The 25 character description for this operation.

Hours Type *Required*

Labor based - indicates that routings using this operation will be scheduled based on labor hours.

Machine based - indicates that routings using this operation will be scheduled based on machine hours.

Work Center *Zoom*

The identifier for the work center used in this operation. To view a list of work centers, click on the magnifying glass.

Machine *Zoom*

The identifier for the machine used in this operation. To view a list of machines, click on the magnifying glass.

Department *Zoom*

The identifier for the department used in this operation. To view a list of departments, press [CTRL]-[z]. See "Review/Select Department" on page A-9.

Team **Zoom**

The identifier for the team that is assigned to this operation. To view a list of teams, click on the magnifying glass.

Tool Number

The identifier for special tools to be used for this operation. This field is for reference only.

Current Setup Hours

The standard hours needed to setup the resources for running this job.

Current Labor Hours

The standard labor hours needed in hours per unit to produce the item.

Average Move Time

The average time in days to move this item to the next operation.

Standard Move Time

The standard time in days to move this item to the next operation.

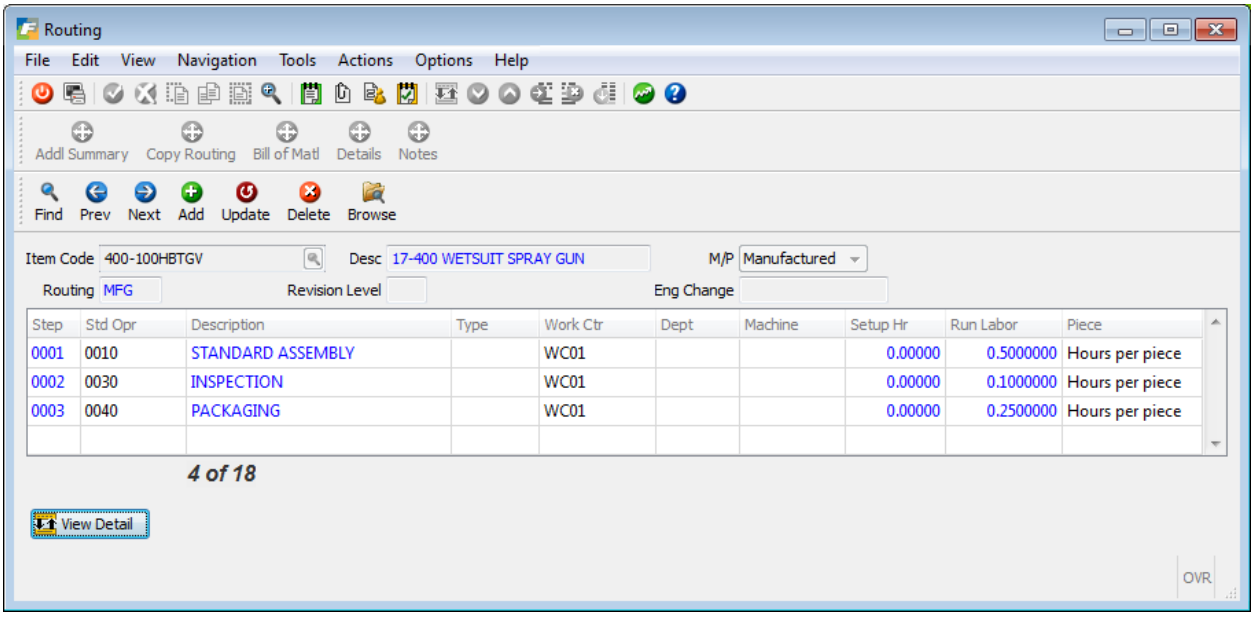
Date Last Maintained *Display Only*

The date that this operation was last maintained.

Add Date *Display Only*

The date that this operation was added to the table.

Routing Maintenance Selection Screen



To add a new routing for an item select the Add action from the ring menu. To Update or Delete a routing you must first select the item using the Find action. Item(s) may be selected by entering information in the following fields:

Item

Enter any item number or portion of an item number that appears in the Item Master Table. Wild cards may be used with this search.

Desc

Enter any item description or partial description for an item that appears in the

Item Master Table. Wild cards may be used with this search.

M/P

Purchased indicates a purchased item.

Manufactured indicates a manufactured item.

Routing (Version)

Enter the identifier for the version of the routing you wish to add. At least one routing should contain the value that is contained in the default routing column in the item master table.

Revision Level

Enter the value to identify the revision level of the item to which this routing relates.

Eng Change (Engineering Change Level)

Enter the value to identify the engineering change level of the item to which this routing relates.

Routing Steps

Step *Required*

The unique sequence number signifying the order that the steps in the routing should be processed.

Std Oper

The identifier for the standard operation that should be used in this routing step. If standard operations are not used, you must key in the remaining required fields for this step. If you do reference a standard operation, the description, work center, machine, department, setup and labor hours, and detailed instructions are loaded automatically from the operation. To view a list of operations, click on the magnifying glass

Description *Required*

The 30 character description of the operation. If the operation number is used, this field will be automatically loaded.

I/O (Inside/Outside) *Required*

Inside indicates that the operation is performed within the company.

Outside indicates that the operation is performed outside of the company. If the operation number is used this field will be automatically loaded.

Work Ctr (Work Center) *Required*

The identifier for the work center where this step is being performed. If the operation number is used, this field will be automatically loaded. To view a list of work centers, click on the magnifying glass.

Mach (Machine)

The identifier for the machine that this step should use. If the operation number is used, this field will be automatically loaded. To view a list of machines, click on the magnifying glass.

Dpt (Department)

The identifier for the department where this step is being performed. If the operation number is used, this field will be automatically loaded. To view a list of departments, click on the magnifying glass.

Setup Hr

The hours required to set up this step. If the operation number is used, this field will be automatically loaded.

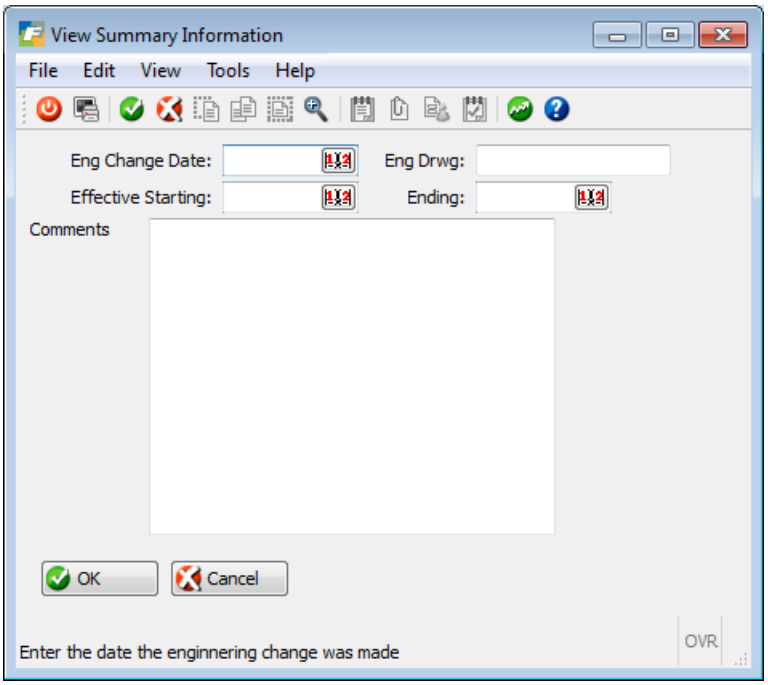
Labor Hr Per Unit

The labor hours needed to complete one unit of the item in this step. If the operation number is used, this field will be automatically loaded.

Routing Additional Details

Use the 

icon to maintain general information concerning this routing. You must be in the header section of the screen and in Add or Update mode to access this screen.



Eng Change Date

The date that the engineering change was made to the item in this routing.

Eng Drwg (Engineering Drawing)

The identifier for the engineering drawing that relates to this routing.

Effective Date

The first date on which this routing can be used in production.

Ending (Ending Date)

The last date on which this routing can be used in production.

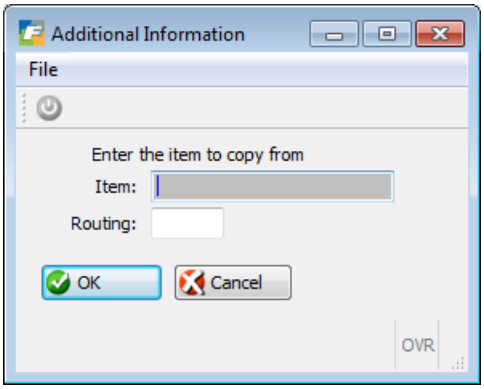
Comments

Free form information concerning this routing.

Copy Routing

Use the 

icon to copy an existing routing into this routing. You must be in Add mode to access this screen.



Item

The identifier of the item that you want to copy into the new routing.

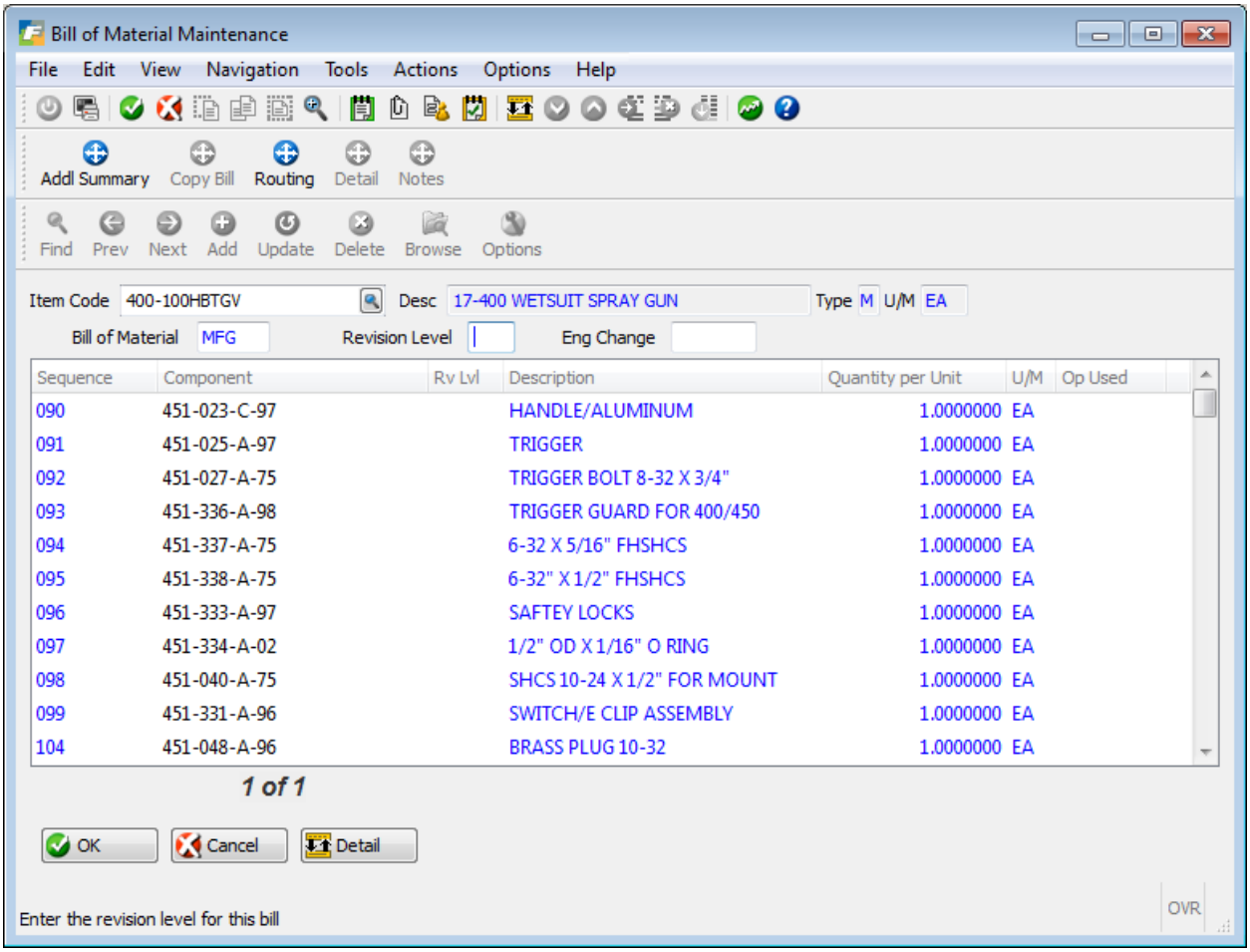
Routing

The identifier for the version of the routing that you want to copy into the new routing.

Bill of Material

Use the 

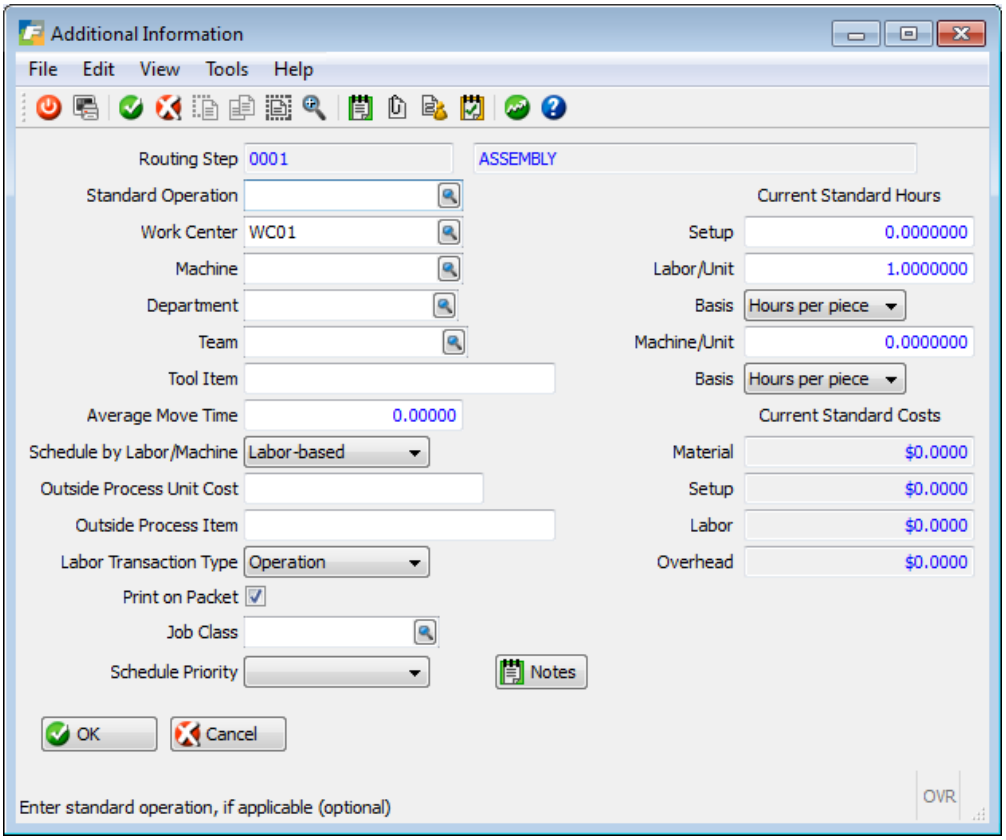
icon to view the bill of material for the item code. You must in the header section of the screen to view the bill of material screen.



Routing Step Details

Use the 

button to maintain the details for current routing step. You must be the detail section of the screen to access routing detail screen.



Routing Step *Display Only*

The unique sequence number signifying the order that the steps in the routing should be processed.

Standard Operation

The identifier for the standard operation that should be used in this operation of the routing. If a valid standard operation number is not used in this field, you must enter the remaining required fields for this step. To view a list of operations, click on the magnifying glass.

Work Center *Required*

The identifier for the work center where this step is being performed. To view a list of work centers, click on the magnifying glass.

Machine

The identifier for the machine that this step should use. To view a list of machines, click on the magnifying glass.

Department

The identifier for the department where this step is being performed. To view a list of departments, click on the magnifying glass.

Team

The identifier for the team that should perform this step. To view a list of teams, click on the magnifying glass.

Tool Item

The identifier for the tool that should be used to perform this operation. This column is used for reference only.

Average Move Time

The average number of days required to move the order from the previous operation to the current operation.

Schedule by Labor/Machine

Labor based indicates that this operation is scheduled by labor hours.

Machine based indicates that this operation is scheduled by machine hours.

Outside Process Unit Cost

The standard cost per unit for the outside processing that is required for this operation to be completed. This column is only used when the routing step is defined as outside.

Outside Process Item

The identifier for the item being processed by an outside vendor.

Labor Transaction Type

Valid values are:

Labor transactions

Operation

Production Receipt

None

Print on Packet

Check this box if this routing step should print on the production packet

Job Class

Enter or zoom to find job class.

Schedule Priority

If finite scheduling is being used in the Production Scheduling module, this value indicates which resource should be considered the constraint (work center, department, machine, or team

Current Standard Hours

Setup

The hours required for setup of this step.

Labor per Unit

The labor hours required to complete one unit of the item in this step.

Machine per Unit

The machine hours required to complete one unit of the item in this step.

Current Standard Costs

These costs are calculated automatically by the cost rollup function in Fitrix Standard Costing.

Material *Display Only*

The total standard cost for the material used at this step.

Setup *Display Only*

The standard cost for the setup labor needed to setup this step.

Labor *Display Only*

The standard cost of labor per unit to complete this step.

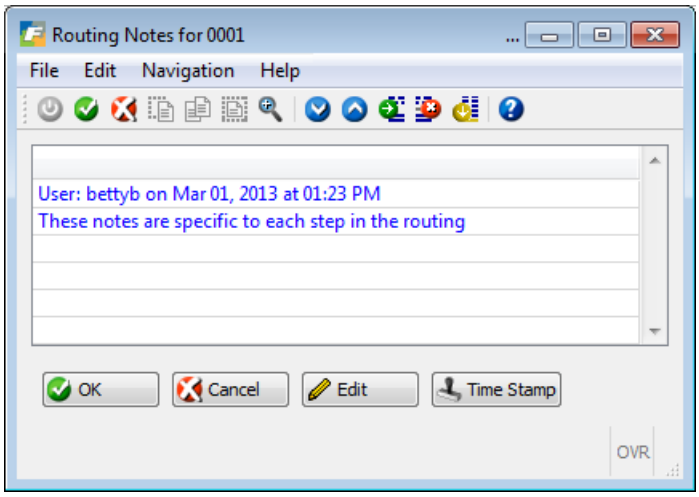
Overhead *Display Only*

The standard cost for the overhead per unit to complete this step.

Routing Notes

Use the 

icon to maintain notes for each routing step. You must be in the detail section of the screen to access the routing notes screen.



The routing step (i.e. 0001) automatically appears in the bar at the top of the screen.

You may enter as many lines of notes as you choose. The notes will appear under the operation information on the production packet.

Work Center/Warehouse Maintenance

Use this menu option to enter and maintain the information to describe the work centers for a specific warehouse. If you want a work center to apply to all warehouses you should enter the information using the Work Center Master Maintenance menu option. If you defined work centers using the Master Maintenance option and then use this option, the information entered here will affect only the warehouse being defined in this table.

A work center is a specific production facility consisting of one or more people and /or machines with similar characteristics. They can be considered a group for purposes of capacity requirements planning, standard and actual costing, and detailed scheduling.

Menu Selection:

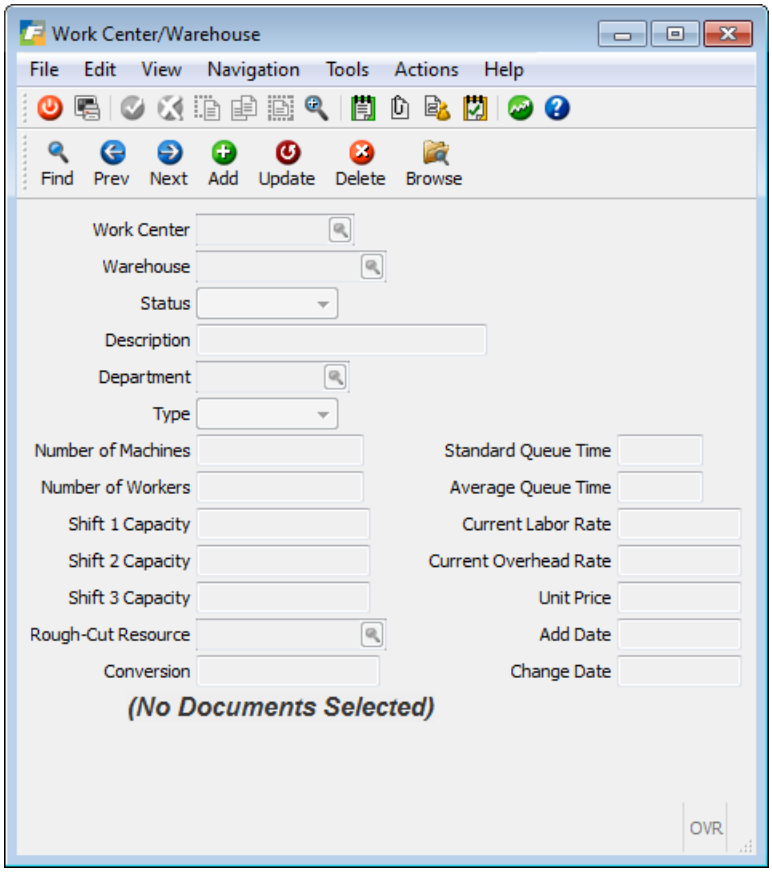
Item Management

Standard Routing

File Maintenance

Work Center/Warehouse

Work Center/Warehouse Maintenance



Work Center *Required*

The identifier for the work center.

Warehouse

The identifier for the warehouse in which this work center exists. To view a list of warehouses, click on the magnifying glass

Status *Required* *Default*

Active- indicates that this work center is active. An active work center will be used in the scheduling and costing routines. Time can be reported against routing steps in an active work center.

Inactive - indicates that this work center is inactive. No transactions or processing can be performed for an inactive work center.

Description *Required*

The 25 character description for this work center.

Department

The identifier of the department with which this work center could be associated. To view a list of departments, click on the magnifying glass.

Type *Required* *Default*

Direct - indicates that costs incurred in this work center are normally direct labor.

Indirect - indicates that the costs incurred in this work center are normally indirect labor.

Subcontract - indicates that the costs incurred in this work center are normally subcontract labor.

Number of Machines

The number of machines in this work center. This number is used as a general reference.

Number of Workers

The number of workers in this work center. This number is used as a general reference.

Rough Cut Resource

Enter the resource identifier if this work center is to be considered a critical resource in Fitrix Master Schedule Planning.

Rough Cut Conversion

If the unit of measure for this work center differs from the unit of measure for the resource identifier in Fitrix Master Schedule Planning, enter the conversion factor to the resource unit of measure.

Capacity in Hours/Day

Shift 1

This is the standard capacity of the work center in hours per day for the first shift.

Shift 2

This is the standard capacity of the work center in hours per day for the second shift.

Shift 3

This is the standard capacity of the work center in hours per day for the third shift.

Queue Time in Hours

Standard

The standard (expected) amount of time, in hours, a job waits at a work center before setup or work is performed on the job. This is one element of total manufacturing lead time.

Average

The average amount of time, in hours, a job waits at a work center before setup or work is performed on the job.

Labor Rate

The labor rate for this work center. This labor rate is used when calculating the current standard cost of an item. Setup hours and labor hours can use this rate to calculate setup and labor costs.

Overhead Rate

The overhead rate for this work center. This overhead rate is used when calculating the current standard cost of an item. Setup hours, labor hours and machine hours can use this rate to calculate standard overhead costs.

Date Added *Display Only*

The date that this record was added to the table.

Change Date *Display Only*

The last date that this item was changed.

Last Activity Date *Display Only*

The last date that activity was posted to this work center.

Department/Warehouse Maintenance

Use this menu option to enter and maintain the information to describe the department for a specific warehouse. If you want a department to apply to all warehouses you should enter the information using the Department Master Maintenance menu option. If you defined departments using the Master Maintenance option and then use this option, the information entered here will affect only the warehouse being defined in this table.

A department can be a collection of work centers. Departments are used in the Actual Costing application to generate the appropriate accounting entries to General Ledger. They are also used in Production Scheduling to analyze load and capacity at a departmental level.

Menu Selection:

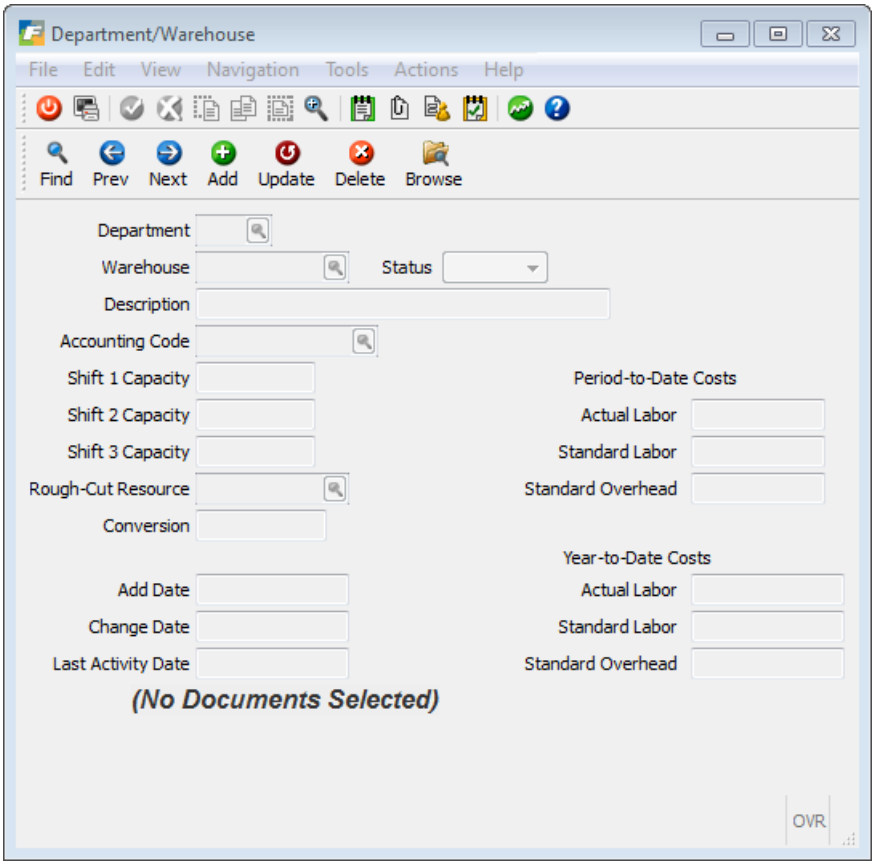
Item Management

Standard Routing

File Maintenance

Department/Warehouse

Department/Warehouse Maintenance



Department *Required*

The identifier for the department.

Warehouse

The identifier for the warehouse in which this department exists. To view a list of departments, click on the magnifying glass.

Status *Required* *Default*

Active - indicates that this department is active. An active department will be used in the scheduling routines. Time can be reported against routing steps in an active department.

Inactive - indicates that this department is inactive. No transactions or processing can be performed for an inactive department.

Description *Required*

The 25 character description for this department.

Accounts

Account Code

A code to assign general ledger account numbers to a department. The account code references a table that contains the general ledger account numbers. To view a list of account codes, click on the magnifying glass.

Capacity in Hours/Day

Shift 1

The standard capacity of the department in hours per day for the first shift.

Shift 2

The standard capacity of the department in hours per day for the second shift.

Shift 3

The standard capacity of the department in hours per day for the third shift.

Rough Cut Resource

Enter the resource identifier if this work center is to be considered a critical resource in Fitrix Master Schedule Planning.

Rough Cut Conversion

If the unit of measure for this department differs from the unit of measure for the resource identifier in Fitrix Master Schedule Planning, enter the conversion factor to the resource unit of measure.

Period-to-Date Costs

Actual Labor *Display Only*

The total of all the actual labor costs for the department during the current period. This field will be set to zero during period end in the Actual Costing application.

Standard Labor *Display Only*

The total of all the standard labor costs for the department during the current period. This field will be set to zero during period close in the Actual Costing application.

Standard Overhead *Display Only*

The total of all the standard overhead costs for the department during the current period. This field will be set to zero during period close in the Actual Costing application.

Year-to-Date Costs

Actual Labor *Display Only*

The total of all the actual labor costs for the department year to date. This field will be set to zero during year end close in the Actual Costing application.

Standard Labor *Display Only*

The total of all the standard labor costs for the department year to date. This field will be set to zero during year end close in the Actual Costing applications.

Standard Overhead *Display Only*

The total of all the standard overhead costs for the department year to date. This field will be set to zero during year end close in the Actual Costing applications.

System Dates

Add Date *Display Only*

The date that this department was added to the table.

Change Date *Display Only*

The date the department was last maintained.

Last Activity Date *Display Only*

The last date the department had activity reported against it.

Machine/Warehouse Maintenance

Use this menu option to enter and maintain the information to describe the machine for a specific warehouse. If you want a machine to apply to all warehouses you should enter the information using the Machine Master Maintenance menu option. If you defined machines using the Master Maintenance option and then use this option, the information entered here will affect only the warehouse being defined in this table.

Menu Selection:

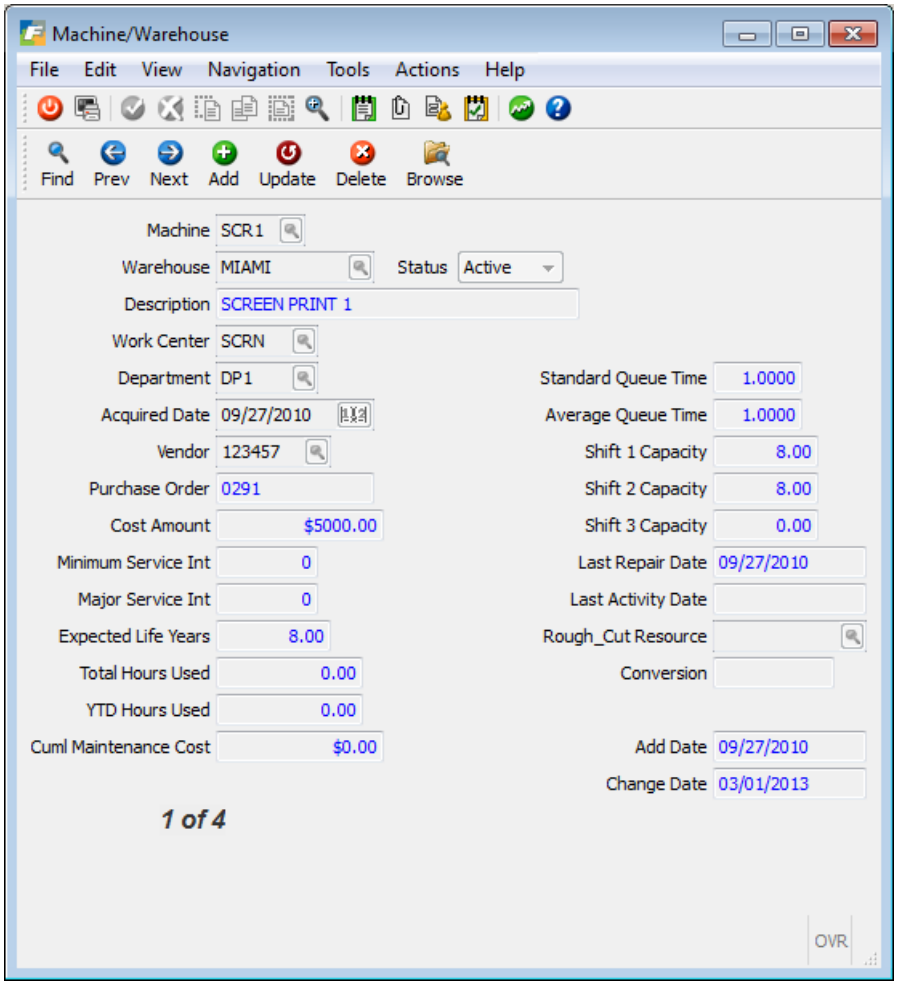
Item Management

Standard Routing

File Maintenance

Machine/Warehouse

Machine Maintenance



Machine identifier *Required*

The identifier for the machine that is being defined.

Warehouse

The identifier for the warehouse in which this work center exists. To view a list of warehouses, click on the magnifying glass.

Status *Required* *Default*

Active - indicates that the status of this machine is active. An active machine will be used in the scheduling routines. Time can be reported against routing steps for an active machine.

Inactive - indicates that the status of this machine is inactive. No transactions or processing can be performed against an inactive machine.

Description *Required*

The identifier for the machine that is being defined.

Work Center *Required*

The identifier for the work center with which this machine could be associated. To view a list of work centers, click on the magnifying glass.

Department

The identifier for the department with which this machine could be associated. To view a list of departments, click on the magnifying glass.

Acquired Date

The date that this machine was put into service.

Vendor

The identifier for the vendor from which the machine was purchased. This field is for reference only. To view a list of vendors, click on the magnifying glass.

Purchase Order

The purchase order number that was used to buy this machine. This field is for reference only.

Cost Amount

The price paid to buy this machine. This field is for reference only.

Minimum Service Int.

The number of hours of run time between minor maintenance service. This field is for reference only.

Major Service Int.

The number of hours of run time between major maintenance service. This field is for reference only.

Expected Life Years

The number of years this machine is expected to be in service. This field is for reference only.

Queue Time in Hours

Standard

The standard (expected) amount of time, in hours, a job waits at a machine before setup or work is performed on the job. This is one element of total manufacturing lead time.

Average

The average amount of time, in hours, a job waits at a machine before setup or work is performed on the job.

Capacity in Hours/Day

Shift 1

This is the standard capacity of the machine in hours per day for the first shift.

Shift 2

This is the standard capacity of the machine in hours per day for the second shift.

Shift 3

This is the standard capacity of the machine in hours per day for the third shift.

Machine Statistics

Total Hours Used *Display Only*

The number of hours this machine was used. This field is updated by the labor processing transactions.

YTD Hours Used *Display Only*

The number of hours this machine was used year to date. This field is updated by the labor processing transactions.

Cuml Maintenance Cost *Display Only*

The accumulated costs for maintenance since the machine was put into service.

Last Maintenance Type *Display Only*

This field is reserved for future use.

Last Repair Date *Display Only*

This field is reserved for future use.

Last Activity Date *Display Only*

The last date that this record was updated by transaction processing.

Rough Cut Resource

Enter the resource identifier if this machine is to be considered a critical resource in Fitrix Master Schedule Planning.

Rough Cut Conversion

If the unit of measure for this machine differs from the unit of measure for the resource identifier in Fitrix Master Schedule Planning, enter the conversion factor to the resource unit of measure.

Add Date *Display Only*

The date that this record was added to the table.

Change Date *Display Only*

The date the machine was last changed by maintenance.

Team Maintenance

Use this menu option to enter and maintain the information to describe the team for a specific warehouse. If you want a team to apply to all warehouses you should enter the information using the Team Master Maintenance menu option. If you defined teams using the Master Maintenance option and then use this option, the information entered here will affect only the warehouse being defined in this table.

Menu Selection:

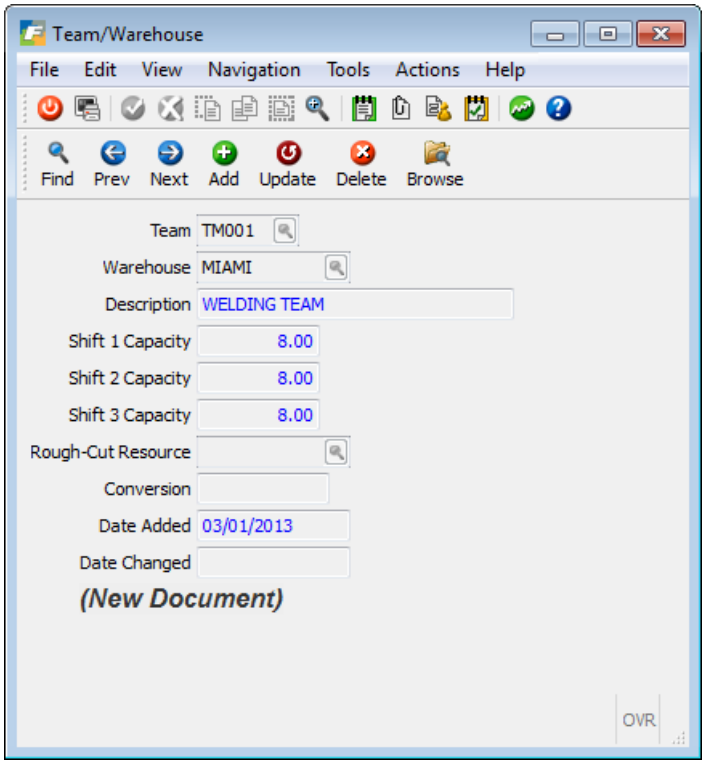
Item Management

Standard Routing

File Maintenance

Team

Team Maintenance



Team Number *Required*

The identifier for the team that is being defined.

Warehouse

The identifier for the warehouse in which this team exists. To view a list of warehouses, click on the magnifying glass.

Description *Required*

The description for the team.

Capacity in Hours/Day

Shift 1

This is the standard capacity of the team in hours per day for the first shift.

Shift 2

This is the standard capacity of the team in hours per day for the second shift.

Shift 3

This is the standard capacity of the team in hours per day for the third shift.

Rough Cut Resource

Enter the resource identifier if this team is to be considered a critical resource in Fitrix Master Schedule Planning.

Rough Cut Conversion

If the unit of measure for this team differs from the unit of measure for the resource identifier in Fitrix Master Schedule Planning, enter the conversion factor to the resource unit of measure.

Date Added **Display Only**

The date that this record was added to the table.

Date Maintained **Display Only**

The date that this team was last maintained.

Alternate Work Center

Use this menu option to assign one or more alternate work centers to primary work centers.

Menu Selection:

Item Management

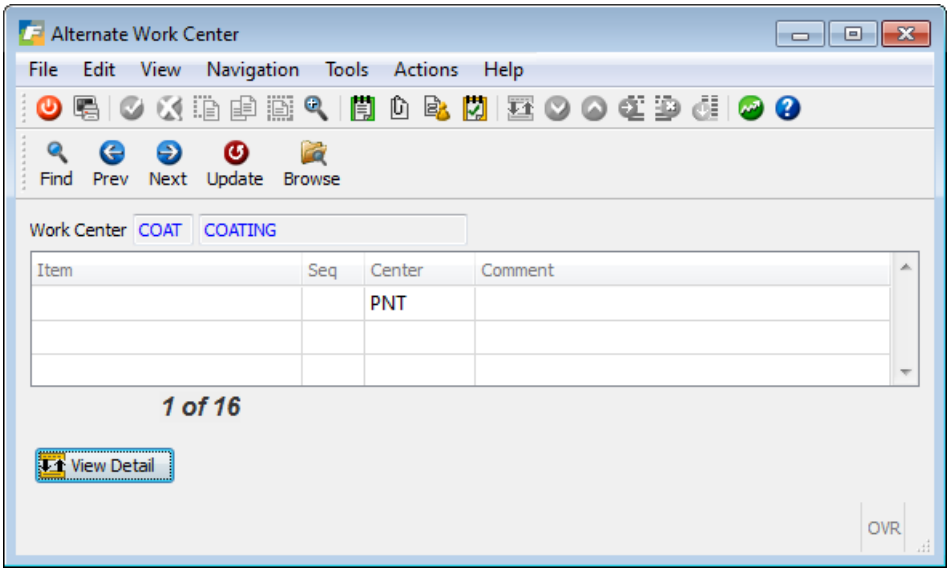
Standard Routing

File Maintenance

Alternate Work Center Maintenance

Alternate Work Center Maintenance

Before entering alternates, you must first select the primary work center using the Find action, then use the Update action.



Work Center *Display Only*

The identifier of the primary work center and its description.

Item

The identifier of a specific item for which this alternate work center can be used. If the item is left blank, the alternate can be used anywhere the primary work center is used. If the item is entered, the alternate may only be used when the primary work center is being used to produce this item. To view a list of items, click on the magnifying glass.

Seq

The sequence number for the alternate work center. Alternates will be displayed in order by sequence.

Alternate Center

The identifier of the alternate work center. To view a list of work centers, click on the magnifying glass.

Comment

Comments concerning this alternate work center.

Alternate Department

Use this menu option to assign one or more alternate departments to primary departments.

Menu Selection:

Item Management

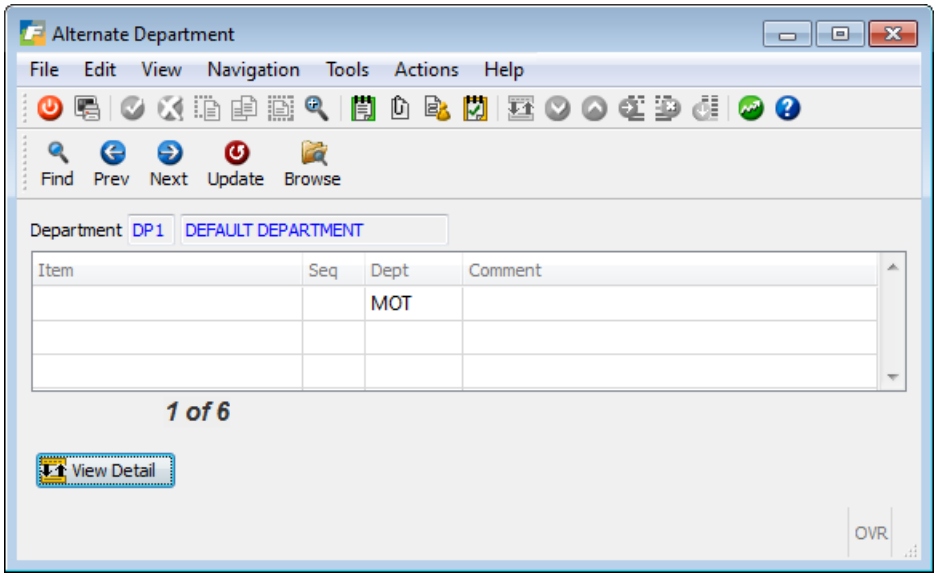
Standard Routing

File Maintenance

Alternate Department Maintenance

Alternate Department Maintenance

Before entering alternates, you must first select the primary department with the Find action, then select the Update action.



Department *Display Only*

The identifier of the primary department and its description.

Alternates

Item

The identifier of a specific item for which this alternate department can be used. If the item is left blank, the alternate can be used anywhere the primary work center is used. If the item is entered, the alternate may only be used when the primary work center is being used to produce this item. To view a list of items click on the magnifying glass.

Seq

The sequence number for this alternate department. Alternate departments are displayed in order by sequence.

Alternate Department

The identifier of the alternate department. To view a list of departments, click on the magnifying glass.

Comment

Comments concerning this alternate department.

Alternate Machine

Use this function to assign one or more alternate machines to primary machines.

Menu Selection:

Item Management

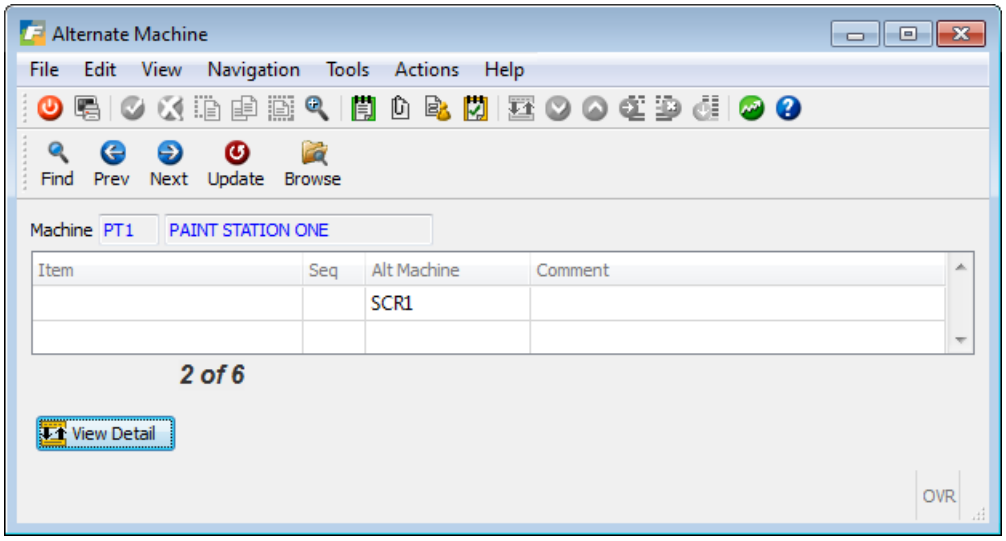
Standard Routing

File Maintenance

Alternate Machine Maintenance

Alternate Machine Maintenance

Before entering alternates, you must first select the primary machine using the Find action, then use the Update action.



Machine *Display Only*

The identifier of the primary machine and its description.

Item

The identifier of a specific item for which this alternate machine can be used. If the item is left blank, the alternate can be used anywhere the primary work center is used. If the item is entered, the alternate may only be used when the primary work center is being used to produce this item. To view a list of items, click on the magnifying glass.

Seq

The sequence number for the alternate machine. Alternate machines are displayed in order by sequence.

Alternate Machine

The identifier of the alternate machine. To view a list of machines, click on the magnifying glass.

Comment

Comments concerning this alternate machine.

Alternate Team

Use this function to assign one or more alternate teams to primary teams.

Menu Selection:

Item Management

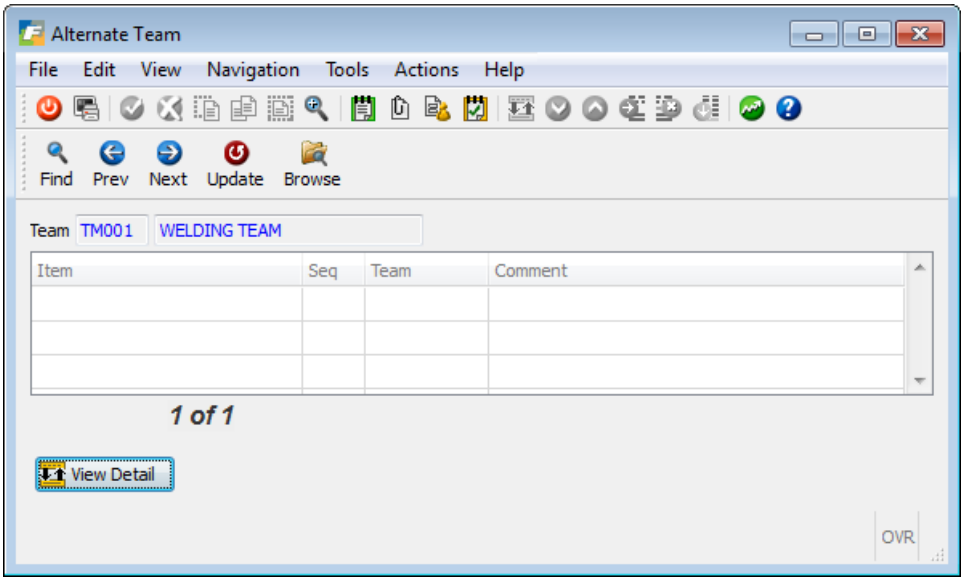
Standard Routing

File Maintenance

Alternate Team Maintenance

Alternate Team Maintenance

Before entering alternates, you must first select the primary team using the Find action, then use the Update action.



Team *Display Only*

The identifier of the primary team and its description.

Alternates

Item

The identifier of a specific item for which this alternate team can be used. If the item is left blank, the alternate can be used anywhere the primary work center is used. If the item is entered, the alternate may only be used when the primary work center is being used to produce this item. To view a list of items, click on the magnifying glass.

Seq (Sequence)

The sequence number for the alternate team. Alternate teams are displayed in order by sequence.

Alternate Team

The identifier of the alternate team. To view a list of teams, click on the magnifying glass.

Comment

Comments concerning this alternate team.

Work Center Mass Replace

Use this menu option to replace all occurrences of a work center in all routing steps. Before this function is used it is highly recommended that a Work Center Where Used Report be printed and reviewed. By entering the original work center and a replacement work center all of the occurrences of the original work center will be shown. Simply move the cursor to each item that you want to change and check the Replace box. Press the Enter key to complete the replace request.

Menu Selection:

Item Maintenance

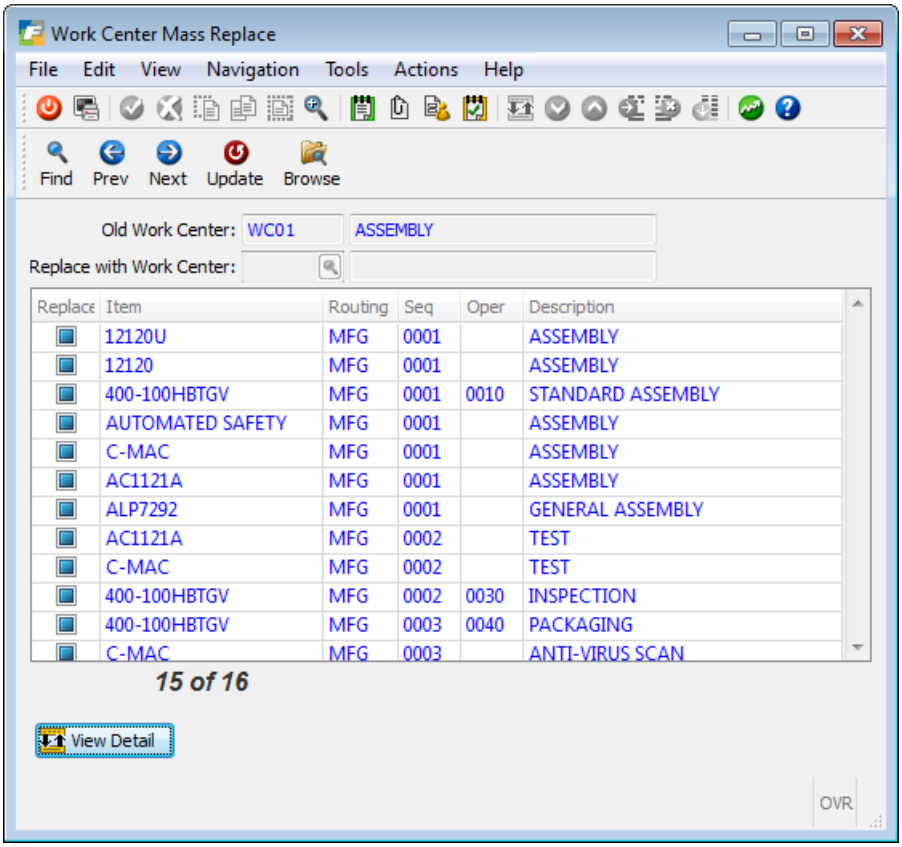
Standard Routing

File Maintenance

Work Center Mass Replace

Work Center Mass Replace

This screen appears when you select the menu option. Select the work center with the Find action.



Old Work Center

The identifier for the work center that you want to replace.

Description

The description of the work center.

Replace with Work Center

Enter the 'Work Center identifier' that you want to use to replace the original work center. Press TAB. The window will now display the following information:

Item *Display Only*

The item which uses the original machine.

Routing *Display Only*

Routing code assigned to the item.

Seq ***Display Only***

This is the routing sequence where the original machine appears.

Oper *Display Only*

The operation number in the routing where the original machine appears.

Machine Mass Replace

Use this menu option to replace all occurrences of a machine from all routing steps. Before this function is used it is highly recommended that a Machine Where Used Report be printed and reviewed. By entering the original machine and a replacement machine, all of the occurrences of the original machine will be shown. Simply move the cursor to each item that you want to change and check the Replace box. Once you have checked the items you want to change, press the Enter key to complete the replace request.

Menu Selection:

Item Management

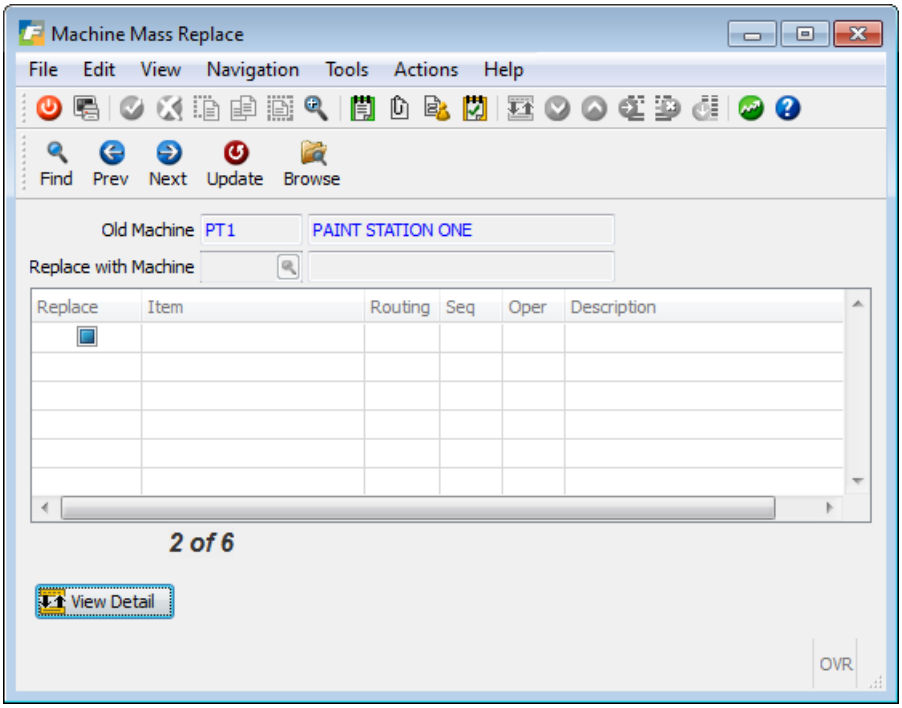
Standard Routing

File Maintenance

Machine Mass Replace

Machine Mass Replace

This screen appears when you select the menu option. Select the machine to be replaced with the Find action.



Old Machine

The identifier of the machine that you want to replace.

Description

The description of the machine.

Replace with Machine

Enter the machine that you want to use to replace the original machine. Press TAB.
The window will now display the following information:

Item *Display Only*

The item which uses the original machine.

Routing *Display Only*

Routing code assigned to the item.

Seq ***Display Only***

This is the routing sequence where the original machine appears.

Oper *Display Only*

The operation number in the routing where the original machine appears.

Description *Display Only*

The description for the routing step.

Standard Routing Control Table

Use this function to tailor the application to your specific needs.

Menu Selection:

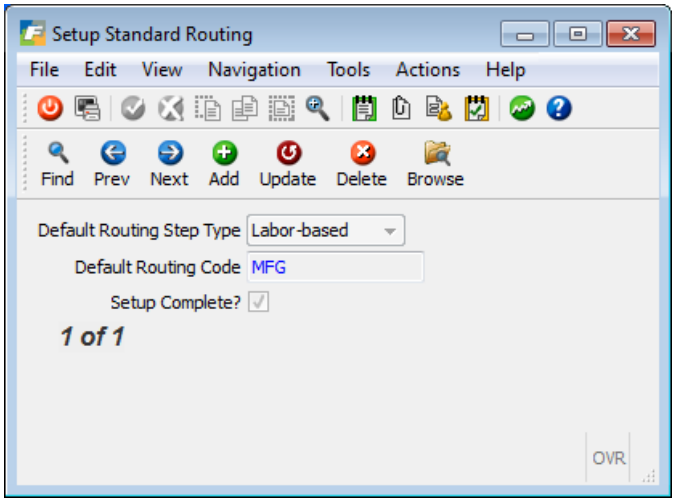
Item Management

Standard Routing

File Maintenance

Setup Standard Routing

Standard Routing Control Table



Default Routing Step Type *Required*

The value in this field is used as a default in the routing table field named Type.

Labor-based - indicates that the operation in the routing is scheduled based on labor hours.

Machine-based - indicates that the operation in the routing is scheduled based on machine hours.

Default Routing Code ***Required***

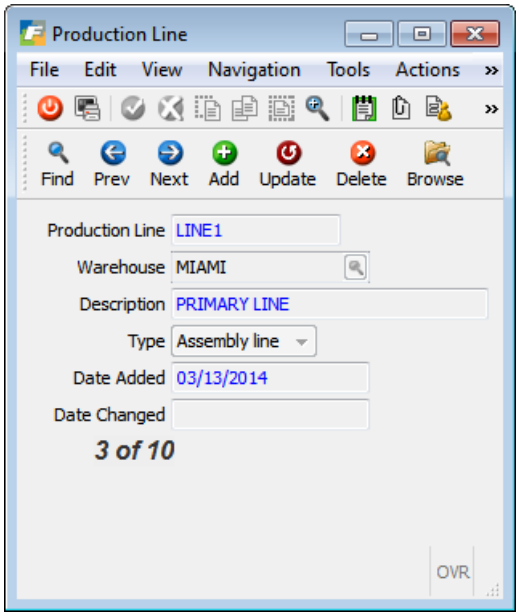
The value in this field is used as a default in the routing table field named Routing.

Setup Complete ***Required***

Indicates Standard Routing is now available for use.

Production Line

Use this program to set up production lines that will then be associated with Bills of Material using the Item/Production Line program found on the Inventory Maintenance submenu.



Chapter 4

Inquiries

This Chapter addresses the functions in Fitrix Standard Routing which allow users to view information entered in File Maintenance. Inquiry functions display information in a variety of formats. They also provide an additional level of security, allowing specified users to see information, but not the ability to change it. The following inquiry functions are included in Fitrix Standard Routing:

- Work Center Where-Used
- Machine Where-Used
- Operation Where Used

Work Center Where Used

Use this function to view all of the items that use a selected work center.

Menu Selection:

Item Management

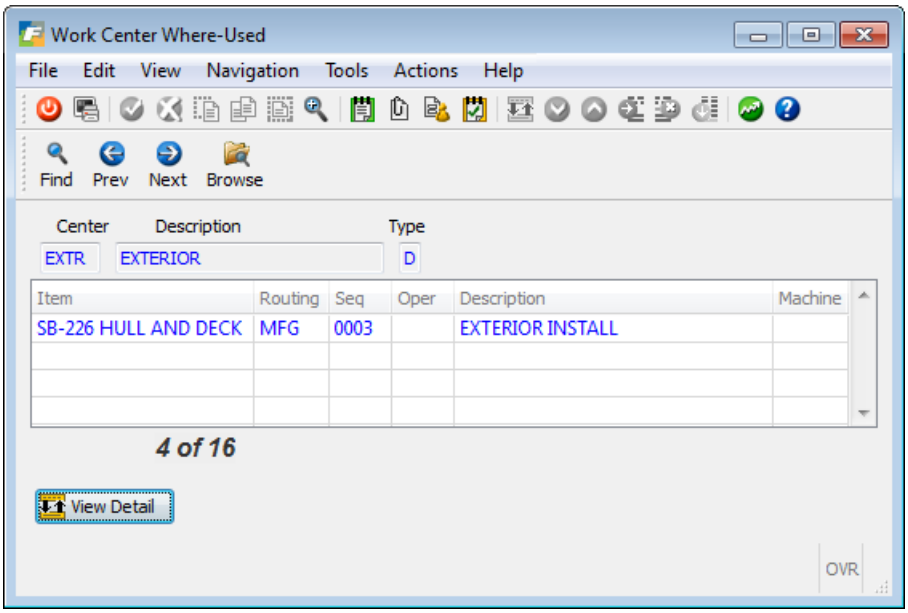
Standard Routing

Inquiry

Work Center Where Used

Work Center Where Used

To select a work center, use the Find action.



Center

Enter a full or partial work center identifier, or leave blank for all work centers.

Description

Enter a full or partial work center description, or leave blank.

Type

D indicates direct labor work centers

I indicates indirect labor work centers.

S indicates subcontract labor work centers

Press **Enter** after entering selection information.

After selecting a work center the following information is displayed:

Item *Display Only*

Identifier for the item that uses this work center.

Routing *Display Only*

The routing step in the item's routing for this work center.

Seq *Display Only*

The sequence of the routing step in the item's routing for this work center.

Oper *Display Only*

The standard operation if the operation information is pre-stored in the operation table. If this field is blank, the operational information was keyed into the routing and not selected from the operation table.

Description *Display Only*

The description for the operation.

Machine *Display Only*

The machine identifier for this operation.

Machine Where Used

Use this function to view all of the items that use the selected machine.

Menu Selection:

Item Management

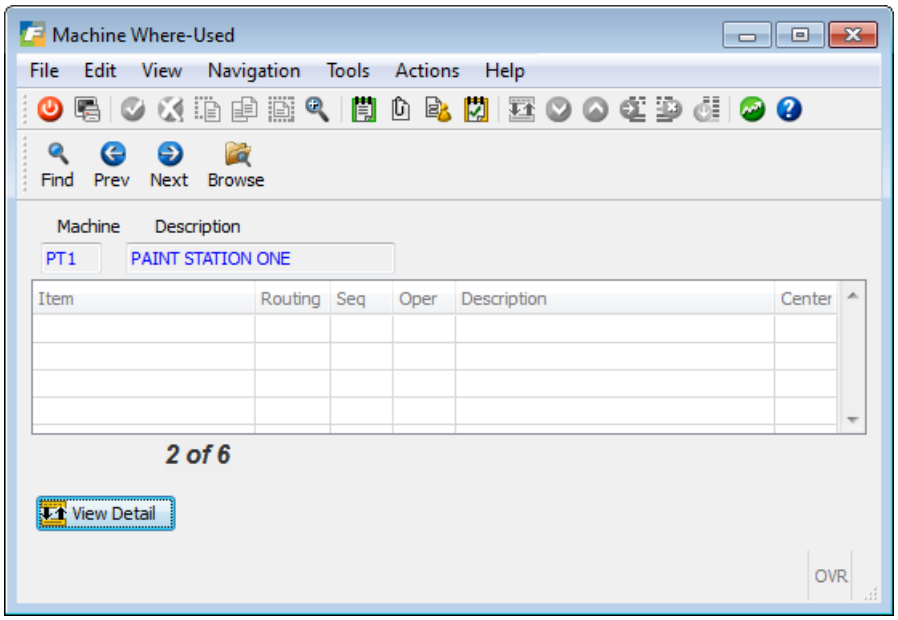
Standard Routing

Inquiry

Machine Where Used

Machine Where Used

To select a machine, use the Find action.



Machine

Enter a full or partial machine identifier in the machine field.

Description

Enter a full or partial machine description in the description field.

Press **Enter** after entering selection information.

After selecting a work center the following information is displayed:

Item *Display Only*

Identifier for the item that uses this work center.

Routing *Display Only*

The routing step in the item's routing for this work center.

Seq *Display Only*

The sequence of the routing step in the item's routing for this work center.

Oper *Display Only*

The standard operation if the operation information is pre-stored in the operation table. If this field is blank, the operational information was keyed into the routing and not selected from the operation table.

Description *Display Only*

The description for the operation.

Center *Display Only*

The work center identifier for this operation.

Operation Where Used

Use this function to view all of the items that use the selected machine.

Menu Selection:

Item Management

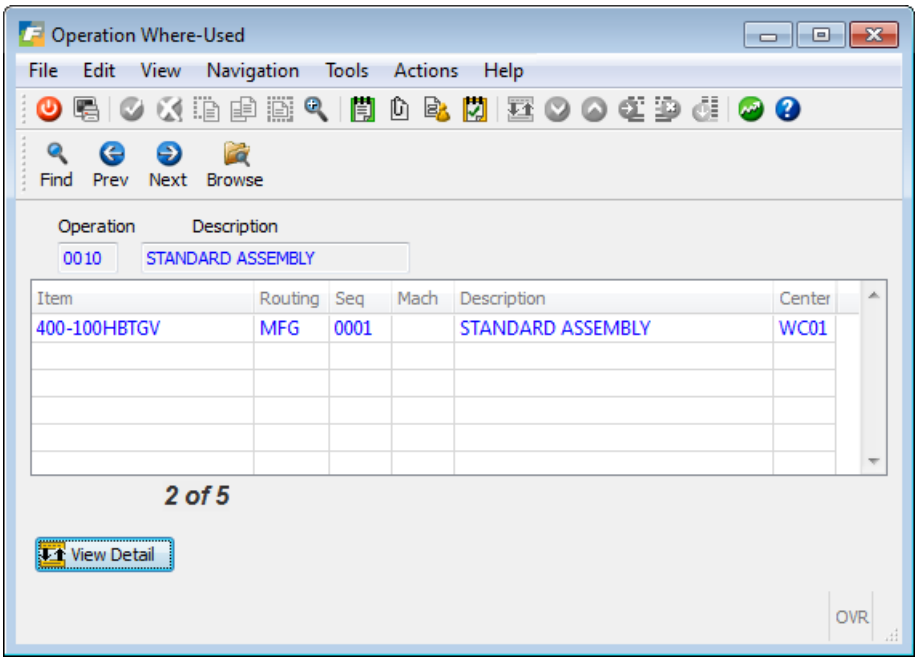
Standard Routing

Inquiry

Operation Where Used

Operation Where Used

To select an operation, use the Find action.



Operation

Enter a full or partial operation identifier in the operation field.

Description

Enter a full or partial operation description in the description field.

Press **Enter** after entering selection information and this information displays:

Item *Display Only*

The identifier for the item that uses the selected operation.

Seq *Display Only*

This is the routing step for this operation.

Seq *Display Only*

This is the sequence step in the item's routing for this operation.

Mach *Display Only*

The machine identifier for this operation.

Description *Display Only*

The description for this operation.

Center *Display Only*

The work center identifier for this operation.

Chapter 5

Reports

This chapter addresses the functions in Fitrix Standard Routing which allow users to print business information entered in File Maintenance. Report functions typically display a prompt screen for entry of print ranges, sort sequences, and optional information. This allows information to be reviewed selectively, and in a variety of formats.

The reports included in Fitrix Standard Routing are:

- Work Center Where-Used
- Machine Where-Used
- Operation Where-Used
- Routing

Work Center Where Used

Use this menu option to print a list of items assigned to each work center. A range of work centers may be selected.

Menu Selection:

Item Management

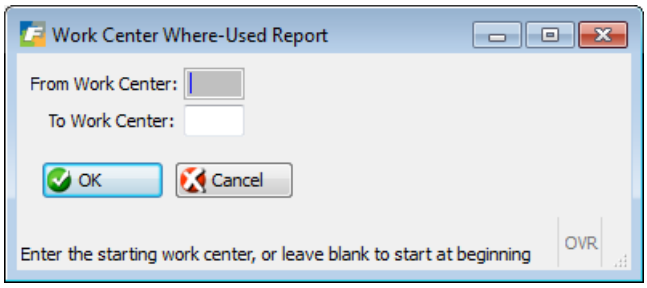
Standard Routing

Reports

Work Center Where Used

Work Center Where Used - Prompt Screen

Enter the desired options to process the Work Center Where Used Report.

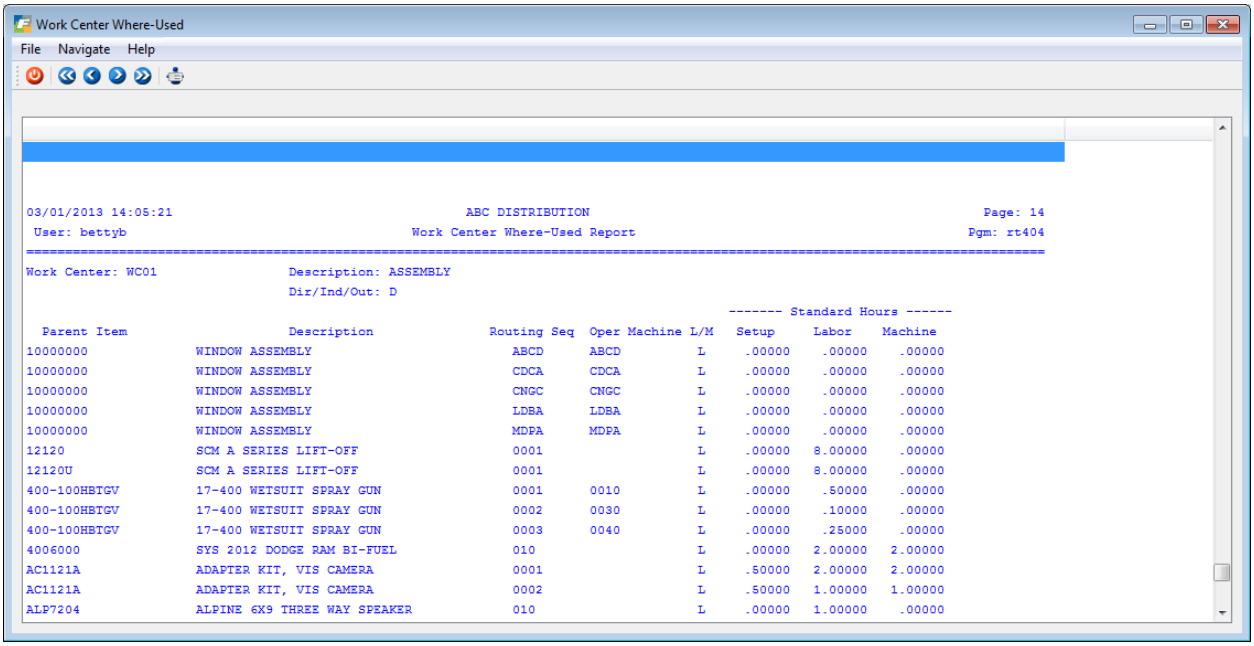


From/To Work Center

Enter the range of work centers to process. If you leave the range blank, all work centers will be processed.

Work Center Where-Used - Report

The following report is printed.



Machine Where Used

Use this menu option to print a list of items assigned to each machine. A range of machine may be selected.

Menu Selection:

Item Management

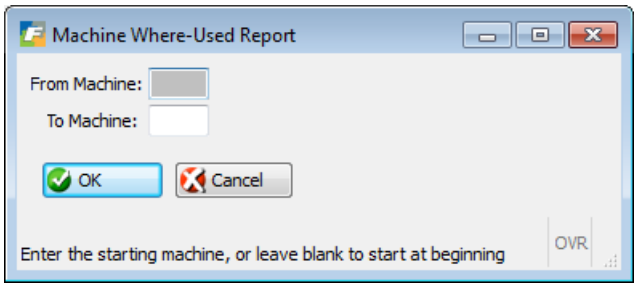
Standard Routing

Reports

Machine Where Used

Machine Where Used - Prompt Screen

Enter the desired options to process the Machine Where Used Report.

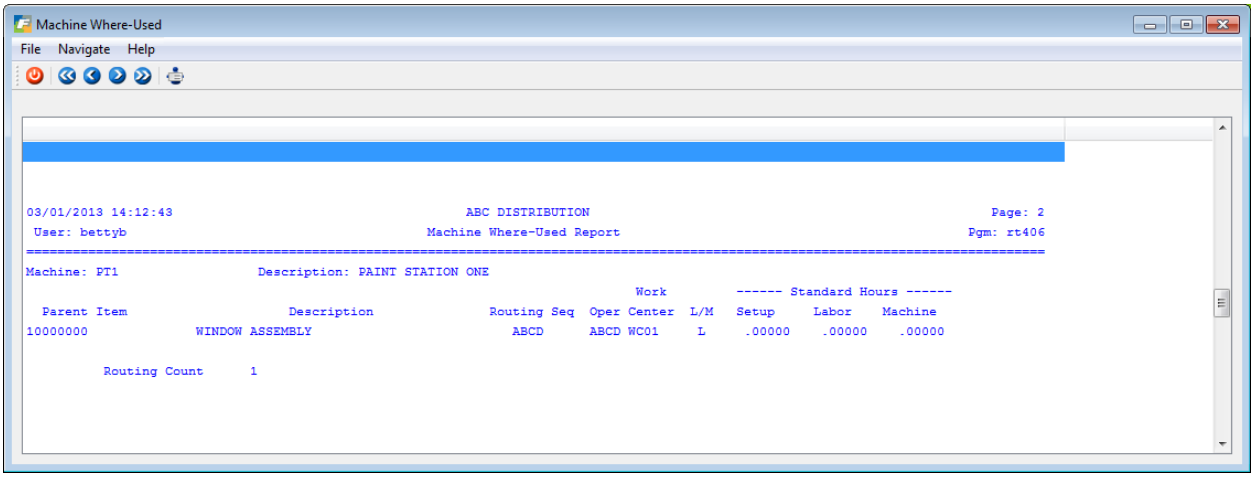


From/To Machine

Enter the range of machines to process. If you leave the range blank, all machines will be processed.

Machine Where-Used - Report

The following report is printed.



Operation Where Used

Use this menu option to print a list of which parent items are assigned to each operation. A range of operations may be selected.

Menu Selection:

Item Management

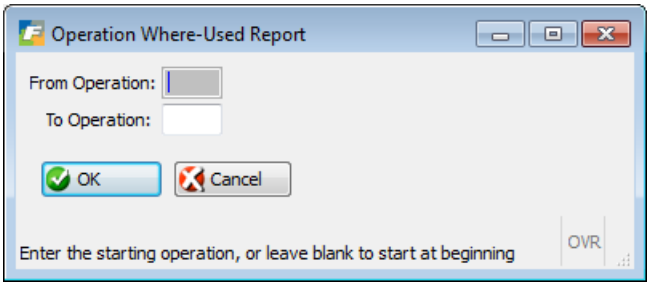
Standard Routing

Reports

Operation Where Used

Operation Where Used - Prompt Screen

Enter the desired options to process the Operation Where Used.

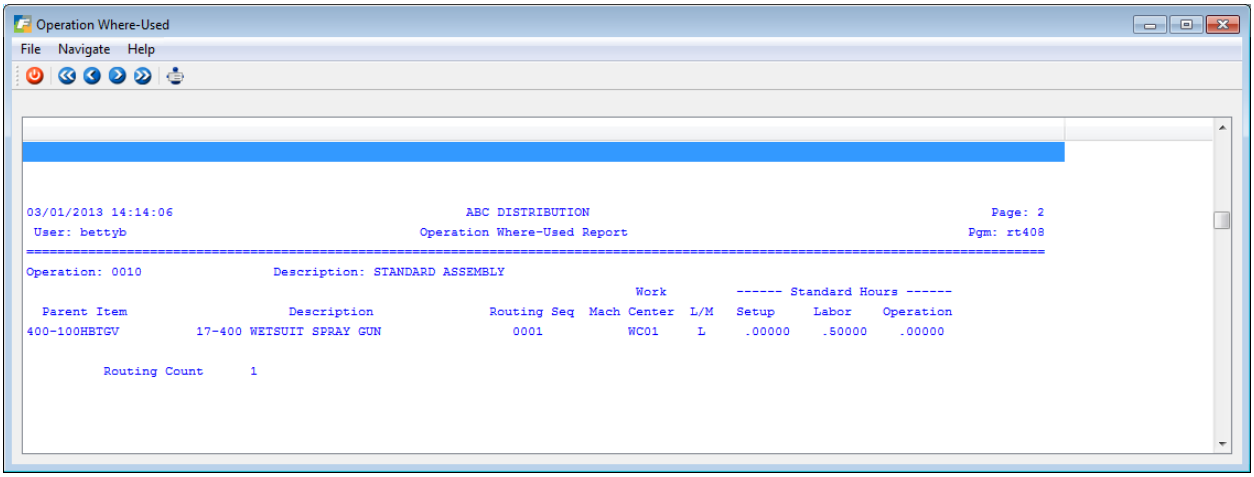


From/To Operation

Enter the range of operations to process. If you leave the range blank, all operations will be processed.

Operation Where-Used - Report

The following report is printed.



Routing

Use this menu option to print a list of steps in each routing. A range of routings may be selected.

Menu Selection:

Item Management

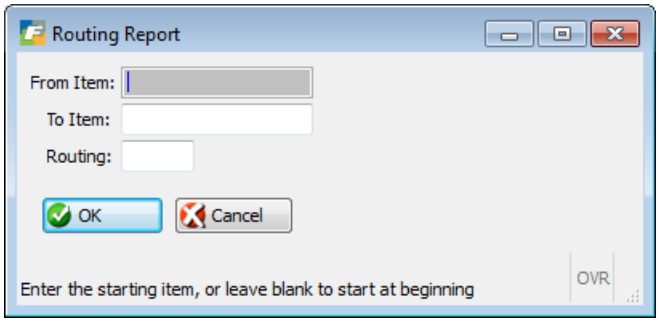
Standard Routing

Reports

Routing

Routing - Prompt Screen

Enter the desired options to process the Routing Report.

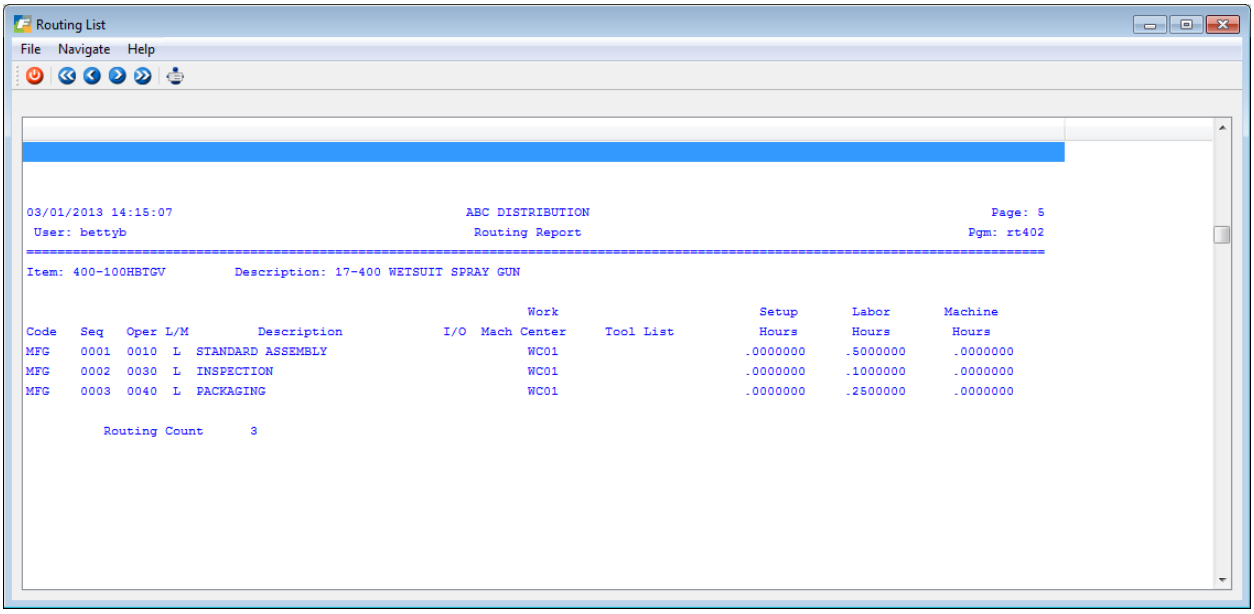


From/To Routing

Enter the range of routings to process. If you leave the range blank, all routings will be processed.

Routing Report

The following report is printed.



Chapter 6

Additional Topics

This chapter discusses general features available in one or more Fitrix applications. Many features encompass multiple menu options and/or multiple applications. The features which relate to Fitrix Standard Routing are:

- Labor/Machine scheduling
- Outside process
- Using departments, work center, machines, teams

Labor/Machine Scheduling

Fitrix Production Scheduling application analyzes hours remaining for production order routing steps in one of two ways:

- The number of labor hours remaining for a routing step
- The number of machine hours remaining for a routing step.

When standard routing steps are entered for an item, the user may enter the following for each routing step:

- Setup labor hours
- Run labor hours per unit
- Run machine hours per unit

For scheduling purposes, the user must indicate that either run labor or run machine hours will be used (not both). If Run Labor Hours are used (Type = L), then only remaining labor hours for each routing step are used to calculate hours remaining for a production order. If Run Machine Hours are used (Type = M), then only remaining machine hours are used.

When labor hours are posted to routing steps, labor and machine hours can be reported. The cumulative hours reported are subtracted from the total standard (estimated) hours to compute the hours remaining.

Outside Process

Outside process allows for routing steps on a production order to be performed by an outside vendor. Routing steps are defined as either Inside (I) or Outside (O). The outside process indicator is used by Production Order Processing and Purchase Order Processing to track and control the outside process activities.

The applications use the outside process flag in the following ways:

Purchase Order Processing

A purchase order may be entered for an outside process operation, by using a non-inventory item that describes the process. The order can be linked to a production order by entering the production order and routing step sequence on the purchase order line item detail.

Production Order Processing

When an outside process operation is included on a production order during entry, a purchase order is created automatically for the process. The purchase order will have a single line item, with the item defined on the outside operation. The item's default vendor (from the Item Master table) will be the purchase order vendor. The purchase order due date will be the operation due date. The purchase order number will be automatically assigned.

By utilizing this feature during production order entry, there is no need to enter a purchase order manually.

Production Scheduling

To analyze the loads on an outside process vendor, a work center can be established which corresponds to the vendor. The outside process routing step can then be assigned to the vendor. Thus, the vendor can be analyzed as a work center to determine load and over or under-commitment.

Using Departments, Work Centers, Machines, Teams

Fitrix Standard Routing allows routing steps to be assigned to the following resources:

- Departments
- Work centers
- Machines
- Teams

Each of these resources can operate entirely independent of the others, and are used to give visibility into multiple levels of capacity and load analysis.

For each of the above resources, a user may define a standard capacity, in hours per shift, per day. In addition, the user may indicate capacity overrides for specific days in the calendar.

Capacity analysis inquiries and reports are available to provide visibility into the capacity and work-in-process loads of these resources, in user defined time periods.

Use of these resources can be controlled by business requirements and procedures. For example:

- The company may wish to measure loads placed on a department (i.e. assembly, inspection, etc.) to determine proper head-count levels.
- A group of similar machines (i.e. CNC lathes, manual lathes, etc.) may need to be tracked collectively as a work center, to analyze utilization levels.
- A specific machine identified as a bottleneck may need to be analyzed individually, to assess the feasibility of acquisition of additional machines.
- Production teams of individuals responsible for manufacture of specific products may need to be measured to determine which teams should be assigned to incoming work.

In addition to supporting analysis of capacity and load, some resources provide additional levels of control:

- Department - Indicates the general ledger accounts to be used when posting labor and overhead.
- Work Centers - Can be used to indicate standard hourly rates for labor and overhead when posting hours worked.