Affordable, Adaptable ERP Software

# *Capacity Requirements Planning User Guide*

Version 6.10

# Fitrix™

## *Capacity Requirements Planning ♦ Product Guide*

***Version 6.10***

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# Table of Contents

# Chapter 1

# Introduction to Capacity Requirements Planning

This chapter contains basic information about Fitrix Capacity Requirements Planning. It is meant to give you a general picture of what the module can do and how it is used. The sections that address this are as follows:

- General description of the Fitrix Capacity Requirements Planning module
- Features of Fitrix Capacity Requirements Planning
- Overview of Capacity Requirements Planning

## General Description

Capacity Requirements Planning uses the labor routings on open and planned production orders to generate schedules for planning the execution of manufacturing work. The purpose of the module is to supply production management with the tools needed to ensure that orders are executed in the proper sequence, and highlight areas where plant capacities are under- or over-utilized.

Labor routings contain information for labor and machine hours to be executed, including:

- Run, setup and machine hours required per unit, and for the quantity ordered
- Expected start and completion dates
- Resources to be used, such as departments, work centers, machines and teams

Labor routing steps are organized by production resource to present a list of work to be performed at the resource, in a user-defined priority sequence. Total labor and machine hours for open and planned production orders are also compared to the capacity available at the required resources to support management review and rescheduling.

# Features

### Multiple Resources per Routing Step

Each labor routing step can be associated with a department, work center, machine, and/or team. Any or all of these resources can be scheduled. These resources can be set up in a hierarchical form, where departments are composed of work centers, which are composed of machines, but this is not a requirement. Teams are typically managed separately and used in environments where the constraining resource is human labor.

### Infinite Scheduling

Production Schedules are generated for a specific production facility (warehouse). Each facility can be set up to use Infinite or Finite Scheduling. When using Infinite Scheduling, the order's defined start date and due dates are used to create a load of hours for the steps within the order. These hours are summarized by resource and date, and compared to the hours available for the resource/date. The resulting comparison is used by production management to help them decide how best to use plant resources such as:

- Move open or planned orders from over-utilized resources to under-utilized alternate resources
- Expedite or defer open orders to stabilize the hours loaded against a resource
- Hire additional production staff or implement overtime programs to address team level overcommitments

The Override Capacity menu options can be used to adjust resource capacities on a daily basis to reflect whatever decisions are made.

### Finite Scheduling

When using Finite Scheduling, orders are scheduled based on a user-defined priority. The priority can be one of the following:

- Production/Planned Order Due Date
- Order Critical Ratio – the ratio of time remaining vs work remaining
- Order Manual Priority – a management-defined value from 1 to 9

The order with the highest priority is scheduled first. Each labor step's remaining hours are 'loaded' onto the associated resource and, based on the resource's capacity, a due date is calculated. The due date is then used as the start date for the next labor step on the order. After each step is analyzed, a resulting 'Scheduled Due Date' is calculated for the order. The next order in the priority sequence is then loaded in the same way. Each order is then assigned a system-generated due date for comparison to the originally defined due date.

Upon completion of the scheduling option, the Capacity vs Load Inquiries can be used to see the effect on resources. Adjustments can be made to increase or decrease capacity using the Capacity Override options to calculate new start and completion dates on subsequent rescheduling runs.

### Graphical Capacity

The results of a scheduling process are presented in a graphical format for analysis and highlight of any bottleneck resources. The analysis can be done at any of the resource levels already noted (department, work center, machine or team). Load vs capacity for any resource can be presented in a daily, weekly, biweekly, semi-monthly, monthly or quarterly basis. Within each time period, drill-downs show the details by order and labor routing step. Time periods are also color-coded to quickly show resources that are over-committed (red), approaching full commitment (yellow), or under committed (green).

### Multiple User-Defined Scheduling Intervals

Production scheduling details can be summarized into one or more time period formats for easy review and analysis. The details of resource load and capacity can be accumulated into user-defined time periods. The time periods can be analyzed for exceptions first and then details can be researched using drill down functions. The time periods can be daily, weekly, bi-weekly, 4-weekly, monthly, quarterly, or combinations of these frequencies. In addition, multiple 'period interval templates' may be created to satisfy the needs of users at different levels within the organization.

### Multiple Warehouse Scheduling

Each warehouse within Fitrix Inventory Control is also defined as a Production Facility. Production Scheduling manages each facility individually. Each facility can also be managed via Finite or Infinite Scheduling

# Overview

### Before You Begin

Before you can use Capacity Requirements Planning, you must first complete "setup" of the module. Setup is the process by which you enter all of the information required to begin processing schedules. Setup includes entry of basic "control" information that the programs need to run, and entry of special parameters for each resource.

Scheduling-related activities can be divided into four broad categories: scheduling setup, scheduling runs, and reviews via inquiry programs. Each activity is associated with a specific menu option, and these options are listed for quick reference in this overview section. (The "keystroke path" to a menu option is indicated in parentheses following each option.)

## Setup

There are three aspects of setup: Company Setup, Capacity Requirements Planning setup, and Resource setup.

Company setup includes entering basic control information that the programs need to run, such as company information and administrative information. This setup is covered in the *Getting Started with Fitrix User Guide*. Because the menu options used for company and administration pertain to the company as a whole, the menu options used to do this initial company setup are located under the General/Administrative menu (option 8). You only need to perform this setup procedure once for all modules in Fitrix ERP.

Capacity Requirements Planning setup is performed from the File Maintenance submenu in Capacity Requirements Planning. Here you will identify default information used by the reports and inquiries when they are used.

Resource Setup starts in the Standard Routing, where you define Work Centers, Departments, Machines and Teams, along with their respective daily shift capacities, in hours per day. Then, you associate the resources with the production facilities, with resource/warehouse maintenance options, from either Standard Routing, Production Scheduling, or Capacity Requirements Planning. Lastly, your can define daily capacity overrides, where the shift capacity for a resource on specific dates differs from the default set up in the resource/warehouse maintenance.

## Finite/Infinite Scheduling

After setup is complete, you can begin running the scheduling functions, and review the results. The scheduling functions are executed from the Processing submenu in Capacity Requirements Planning. You determine ahead of time, for each production facility, if you want to Finitely or Infinitely Schedule. It is recommended that you use Infinite Scheduling at first to see how your resource capacities compare to actual load and not use the system to automatically calculate new operation and order due dates.

## Inquiry Review

Scheduling data can be reviewed in a variety of formats, groupings, and sequences. Inquiries let you analyze by Department, Work Center, Machine, and Team. The inquiries display the current status of specific resources by comparing their capacity in hours to the load from open orders. The capacity/load is divided into user-defined time periods (days, weeks, months, etc.) to show summarized comparisons, with drill-down capability to see the individual orders and labor steps that make up the load.

The inquiries available are:

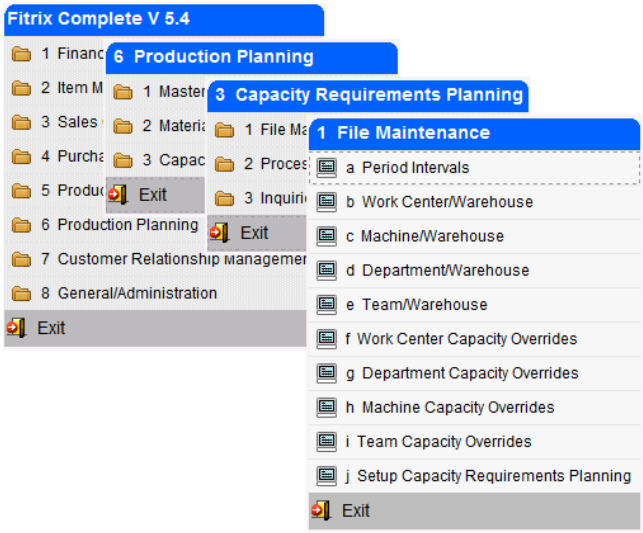
- Capacity Load by Department (6-3-3-a)
- Capacity Load by Work Center (6-3-3-b)
- Capacity Load by Machine (6-3-3-c)
- Capacity Load by Team (6-3-3-d)

# Chapter 2

# Setup Capacity Requirements Planning

In this chapter you will learn to set up the information needed to assist in scheduling production which includes:

Period Intervals
Work Center/Warehouse
Machine/Warehouse
Department/Warehouse
Team/Warehouse
Work Center Capacity Overrides
Department Capacity Overrides
Machine Capacity Overrides
Team Capacity Overrides
Setup Capacity Requirements Planning



### Period Intervals

This menu option is used to setup and maintain the Period Intervals, used by Capacity Requirements Planning Inquiries to place future capacity and load into user-defined time periods. You can define multiple period intervals, and then assign a default Interval in the Setup Capacity Requirements Planning menu option. When running inquiries and reports, you may be prompted to enter an Interval Code, or use the default value.

**NOTE**: Period Intervals are also used by Material Planning, Master Scheduling, and Production Scheduling, in inquires and reports, for the same purpose.

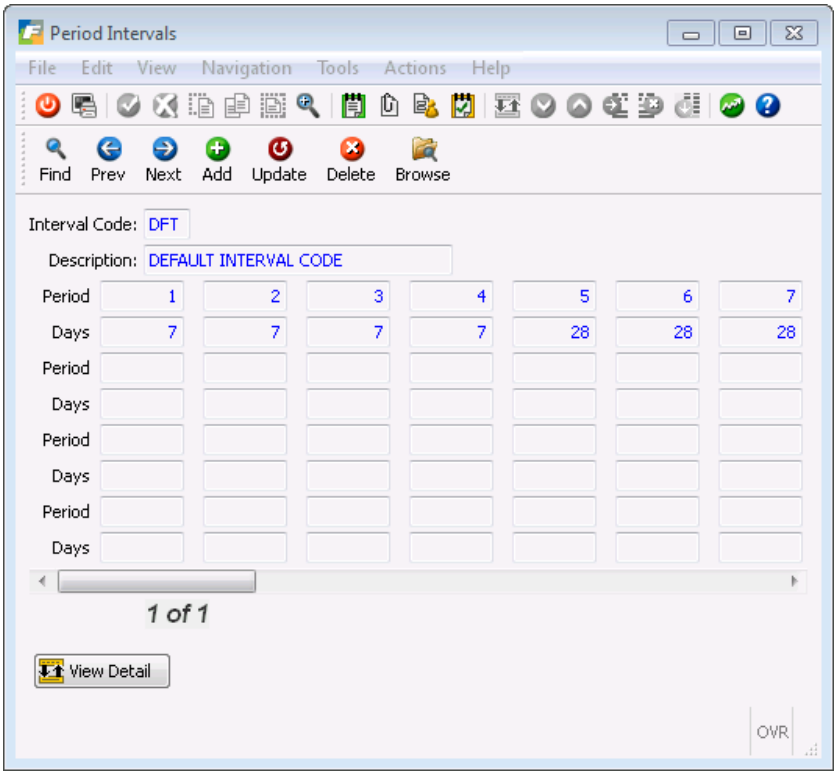
For example:

- Period interval code 'A' could use the following periods:
  - 8 weekly intervals
  - 4 biweekly intervals
  - 3 quarterly intervals

This setup would allow the user to view capacity and load for the next year (approximately). The nearer term plan would be displayed in weekly intervals. The periods would then become larger as the activity moves farther out.

- Interval code 'B' could use the following periods:
  - 52 weekly buckets

This would display all schedule data for the next year on weekly intervals.




The Period Interval screen contains the following fields:

- *Interval Code* - This field stores a unique three-character order type code.
- *Description* - You enter a description of this period interval (up to 30 characters) in this field.

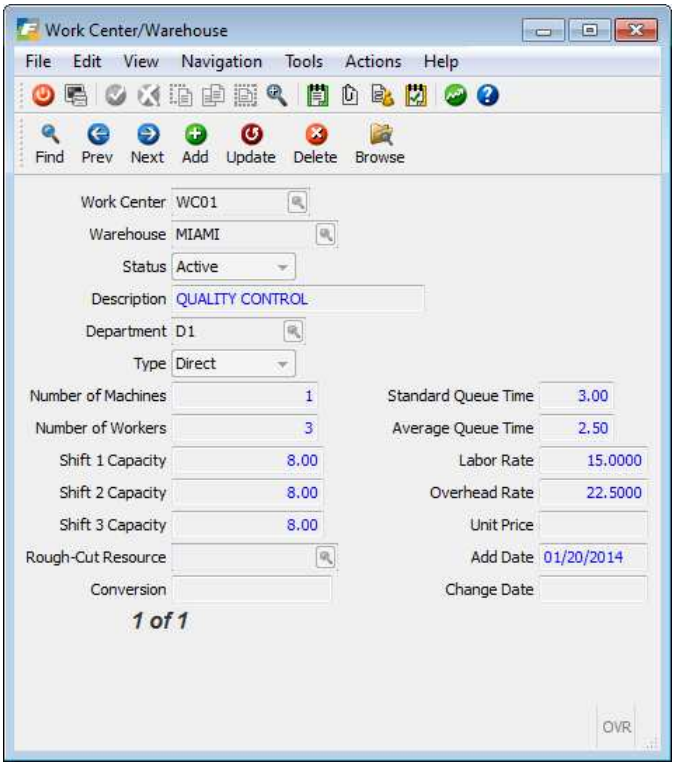
One or more periods must be defined:

- *Period* – Period numbers are automatically assigned by the system. You are allowed to have up to 100 periods per period interval.
- *Days* – Enter the number of days in for the period. This value should be entered as either 1 (daily) or in multiples of 7 (for 1 or more weeks). This achieves a consistent division of time periods into multiples of weeks.

### 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.




**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 -** This column is reserved for future use

**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**

Reserved for future use with the Fitrix Master Schedule Planning module.

**Rough Cut Conversion**

Reserved for future use with the Fitrix Master Schedule Planning module.

**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 –** This column is reserved for future use

**Standard**

The standard (expected) amount of time, in hours, a job waits at a work center before set-up 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.

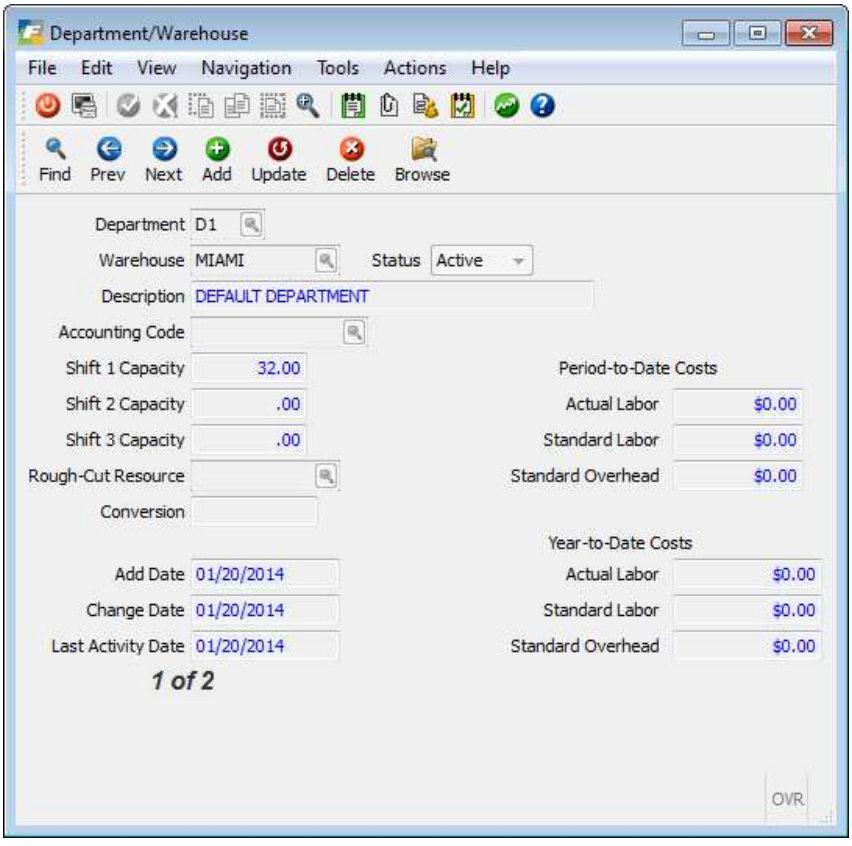
**Change Date** *Display Only*

The last date that this item was changed.

## 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.




**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.

**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**

Reserved for future use with the Fitrix Master Schedule Planning module.

**Rough Cut Conversion**

Reserved for future use with the Fitrix Master Schedule Planning module.

**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*

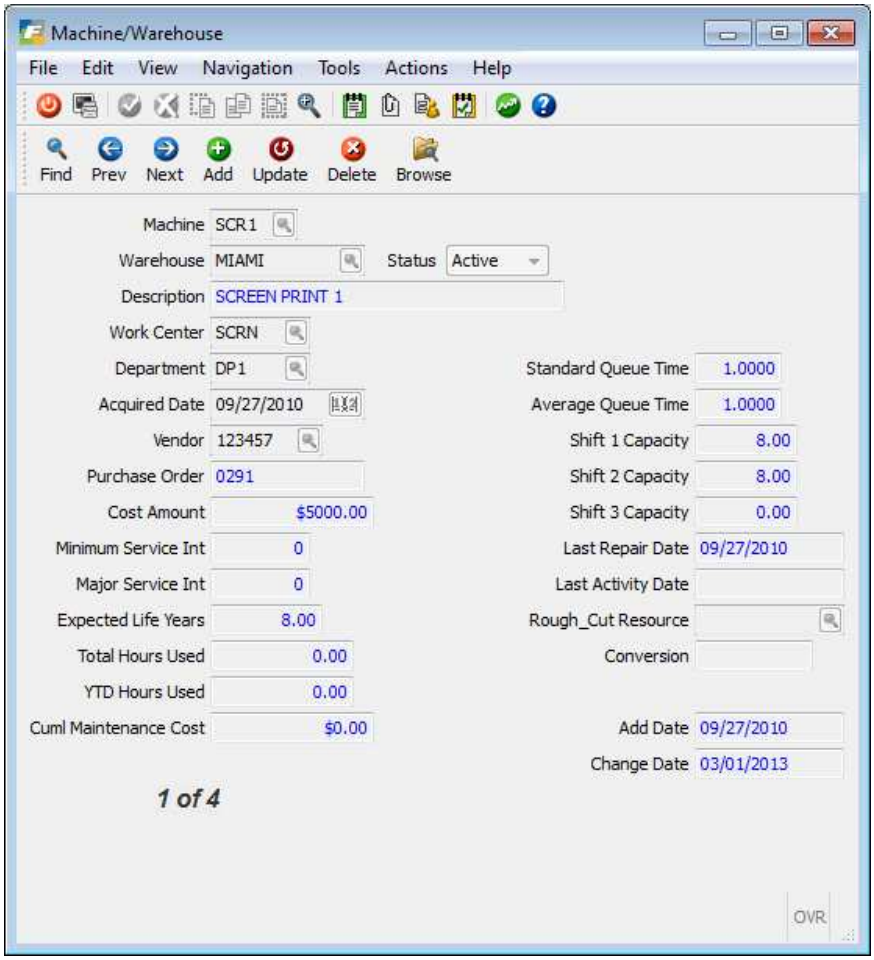
The date the department was last maintained.

**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.




**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 –** These columns are reserved for future use.

**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**

Reserved for future use with the Fitrix Master Schedule Planning module.

**Rough Cut Conversion**

Reserved for future use with the Fitrix Master Schedule Planning module.

**Add Date** *Display Only*

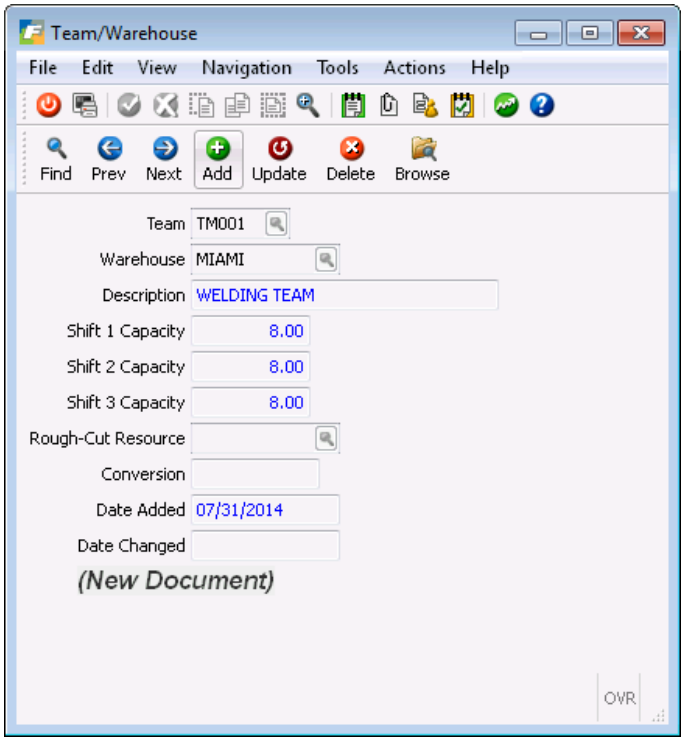
The date that this record was added to the table.

**Change Date** *Display Only*

The date the machine was last changed by maintenance.

### Team/Warehouse 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.




**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**

Reserved for future use with the Fitrix Master Schedule Planning module.

**Rough Cut Conversion**

Reserved for future use with the Fitrix Master Schedule Planning module.

**Date Added** **Display Only**

The date that this record was added to the table.

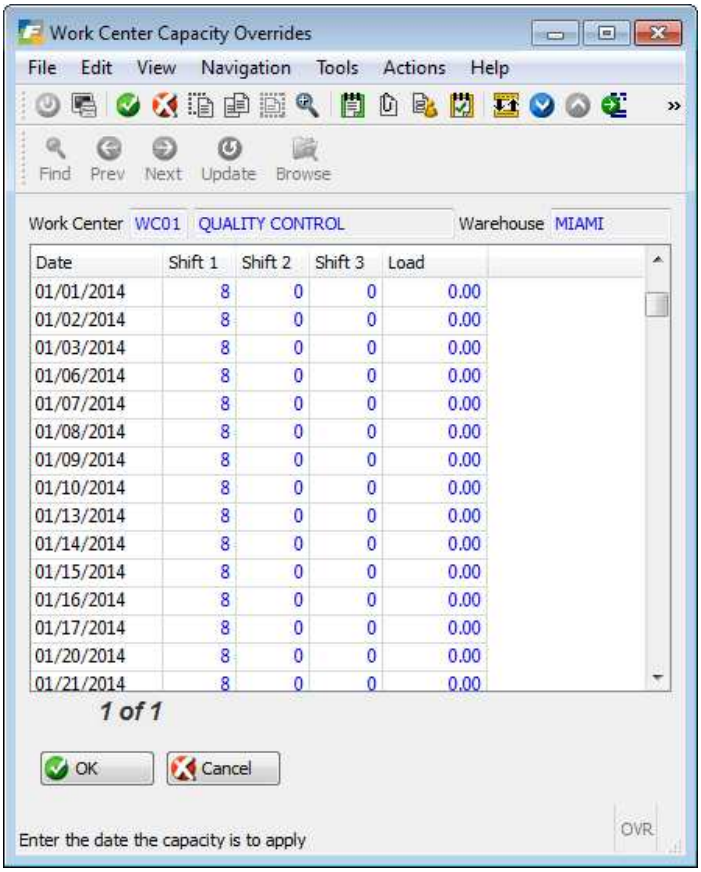
**Date Maintained** **Display Only**

The date that this team was last maintained.

### Work Center Capacity Overrides

Use this menu option to enter and maintain specific dates when the work center/warehouse will have a capacity that differs from the default capacities for any of the three shifts. This is useful for adding or changing capacities to address over-commitments on a short-term basis.

To enter new date overrides, change existing overrides, or delete overrides, you must first click the Find option, then enter a valid work center and warehouse, then click OK. A screen similar to the following will display.




**Date –** the working date to be overriden. To enter a new date, use either the F1 key to insert a new line, or move the cursor to the end of the list, to a new blank line, and enter the date and hours. To change the hours for an existing date, move the cursor to the date and enter a new value for hours. To remove an override, move the cursor to the existing date, and press F2. This will remove the date, and revert back to the default hours for that date.

**Shift 1 –** The overriding hours for shift 1 for the date

**Shift 2 -** The overriding hours for shift 2 for the date. If shift 2 is not used, enter zero here

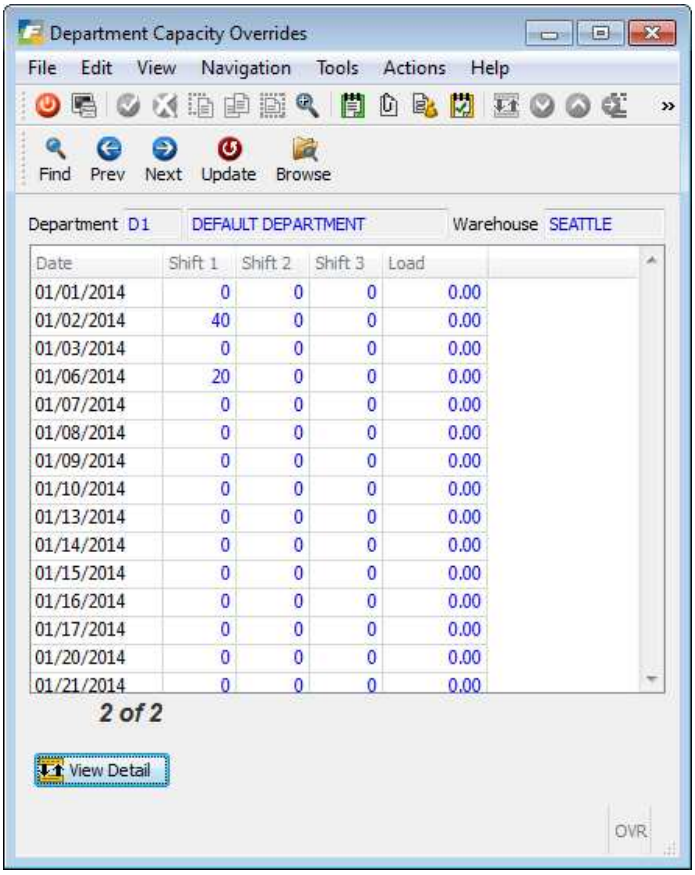
**Shift 3 -** The overriding hours for shift 3 for the date. If shift 3 is not used, enter zero here

**Load -** A general reference to the load in hours for this date, from the last Order Reschedule operation . The load is updated by the Finite and Infinite Scheduling functions. It is the sum of labor routing step hours to be completed on that date, based on the start and due dates of the routing steps.

### Department CapacityOverrides

Use this menu option to enter and maintain specific dates when the department/warehouse will have a capacity that differs from the default capacities for any of the three shifts. This is useful for adding or changing capacities to address over-commitments on a short-term basis.

To enter new date overrides, change existing overrides, or delete overrides, you must first click the Find option, then enter a valid department and warehouse, then click OK. A screen similar to the following will display.




**Date –** the working date to be overriden. To enter a new date, use either the F1 key to insert a new line, or move the cursor to the end of the list, to a new blank line, and enter the date and hours. To change the hours for an existing date, move the cursor to the date and enter a new value for hours. To remove an override, move the cursor to the existing date, and press F2. This will remove the date, and revert back to the default hours for that date.

**Shift 1 –** The overriding hours for shift 1 for the date

**Shift 2 -** The overriding hours for shift 2 for the date. If shift 2 is not used, enter zero here

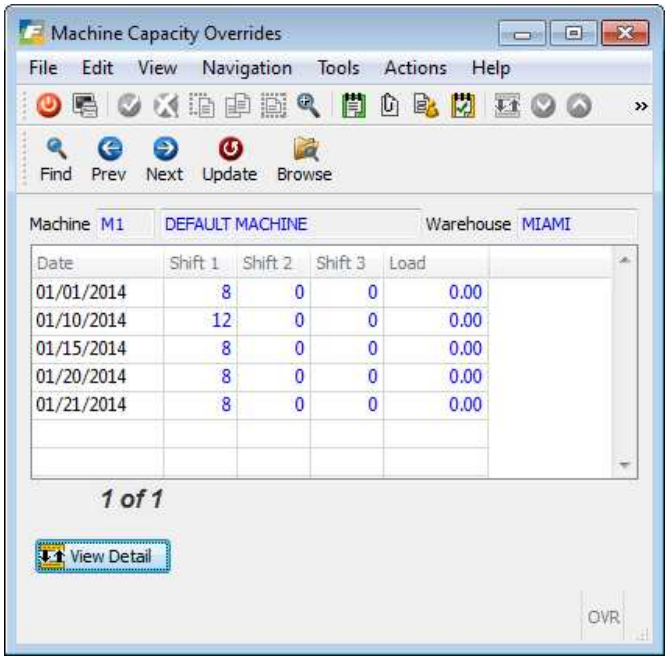
**Shift 3 -** The overriding hours for shift 3 for the date. If shift 3 is not used, enter zero here

**Load -** A general reference to the load in hours for this date, from the last Order Reschedule operation . The load is updated by the Finite and Infinite Scheduling functions. It is the summ of labor routing step hours to be completed on that date, based on the start and due dates of the routing steps.

### Machine Capacity Overrides

Use this menu option to enter and maintain specific dates when the machine/warehouse will have a capacity that differs from the default capacities for any of the three shifts. This is useful for adding or changing capacities to address over-commitments on a short-term basis.

To enter new date overrides, change existing overrides, or delete overrides, you must first click the Find option, then enter a valid machine and warehouse, then click OK. A screen similar to the following will display.




**Date –** the working date to be overriden. To enter a new date, use either the F1 key to insert a new line, or move the cursor to the end of the list, to a new blank line, and enter the date and hours. To change the hours for an existing date, move the cursor to the date and enter a new value for hours. To remove an override, move the cursor to the existing date, and press F2. This will remove the date, and revert back to the default hours for that date.

**Shift 1 –** The overriding hours for shift 1 for the date

**Shift 2 -** The overriding hours for shift 2 for the date. If shift 2 is not used, enter zero here

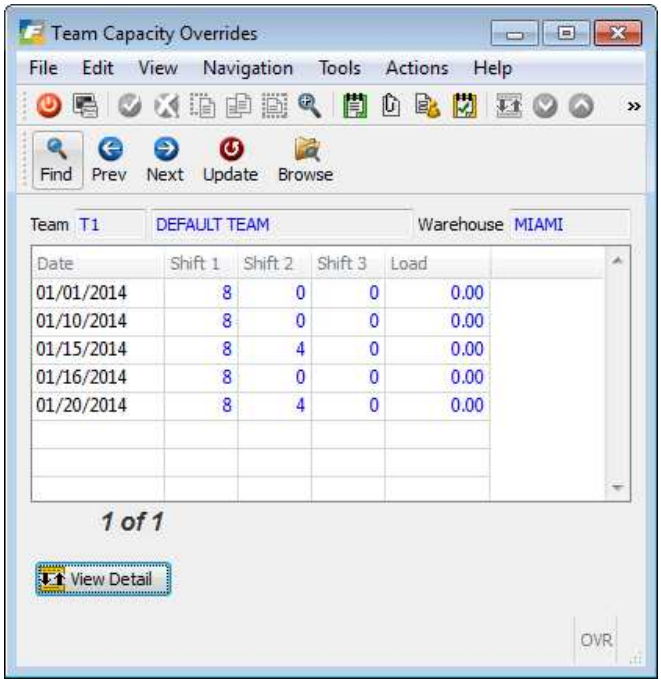
**Shift 3 -** The overriding hours for shift 3 for the date. If shift 3 is not used, enter zero here.

**Load -** A general reference to the load in hours for this date, from the last Order Reschedule operation . The load is updated by the Finite and Infinite Scheduling functions. It is the summ of labor routing step hours to be completed on that date, based on the start and due dates of the routing steps.

### Team Capacity

Use this menu option to enter and maintain specific dates when the team/warehouse will have a capacity that differs from the default capacities for any of the three shifts. This is useful for adding or changing capacities to address over-commitments on a short-term basis.

To enter new date overrides, change existing overrides, or delete overrides, you must first click the Find option, then enter a valid team and warehouse, then click OK. A screen similar to the following will display.




**Date –** the working date to be overriden. To enter a new date, use either the F1 key to insert a new line, or move the cursor to the end of the list, to a new blank line, and enter the date and hours. To change the hours for an existing date, move the cursor to the date and enter a new value for hours. To remove an override, move the cursor to the existing date, and press F2. This will remove the date, and revert back to the default hours for that date.

**Shift 1 –** The overriding hours for shift 1 for the date

**Shift 2 -** The overriding hours for shift 2 for the date. If shift 2 is not used, enter zero here

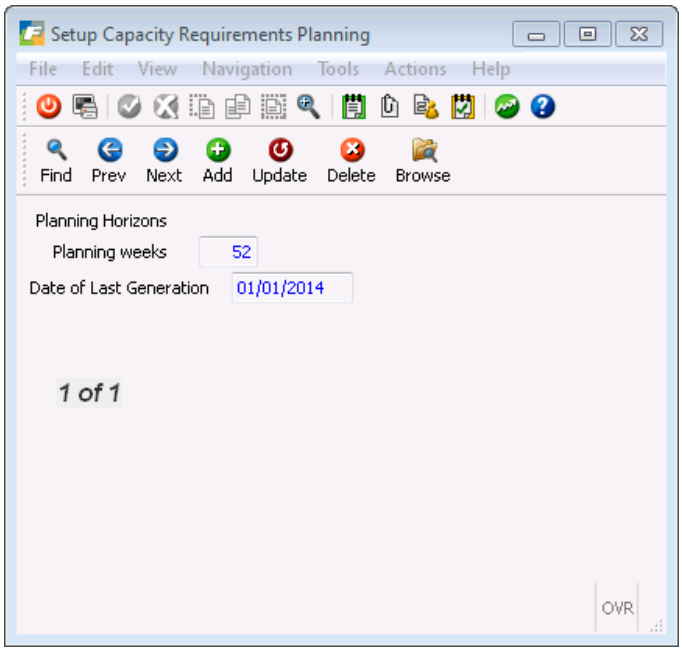
**Shift 3 -** The overriding hours for shift 3 for the date. If shift 3 is not used, enter zero here.

**Load -** A general reference to the load in hours for this date, from the last Order Reschedule operation . The load is updated by the Finite and Infinite Scheduling functions. It is the summ of

labor routing step hours to be completed on that date, based on the start and due dates of the routing steps.

**Setup Capacity Requirements Planning**Error! Bookmark not defined.

Use this menu option to setup and change the application controls for capacity requirements planning.




### Planning Horizon Weeks

The number of weeks from the planning start date for which to consider planned orders to be capacity planned.

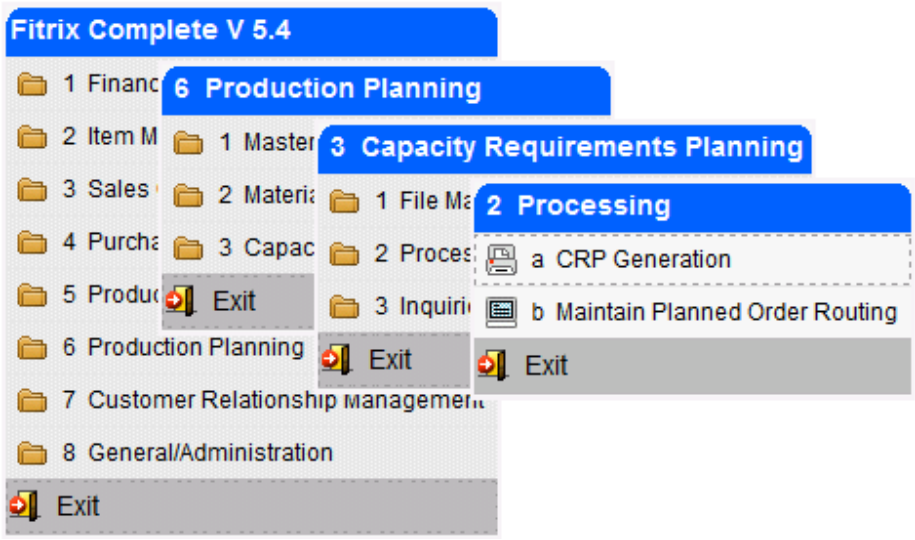
### Date of Last Generation

The last date on which a Capacity Planning generation was performed

# Chapter 3

# Processing

- In this chapter you will learn about the order scheduling methods in Production Scheduling
  - CRP Generation
  - Maintain Planned Order Routing



## CRP Generation

This menu option is used to generate the labor load from planned production orders. The standard routing for each planned order is used to create a series of labor steps. The start and end date for each labor step, along with the planned order quantity and standard labor hours to complete creates load detail that can be used later to determine if the routing's associated resources (Work Centers, Departments, Machines, Teams) have the capacity to produce the planned load.

The CRP generation uses Infinite Scheduling logic to calculate operation start and end dates. The Fitrix Production Scheduling module has the ability to use either Finite or Infinite Scheduling, but the scheduling of planned orders in CRP uses only the Infinite technique.

The following screen displays:

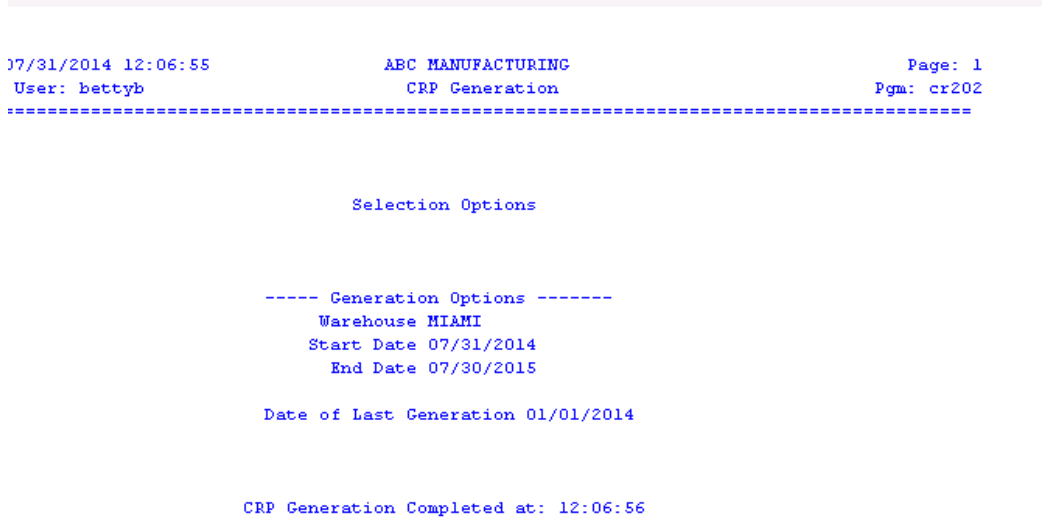

**Warehouse –** Enter the production facility (warehouse) to be planned

**Planning Date –** Enter the beginning date for planned orders to be processed. The default is the current system date.

**Planning Horizon in Weeks –** Enter the number of weeks from the Planning Date for planned orders to be processed.

**Date of Last Generation –** This reference date shows the last date a CRP generation was executed.

The generation option creates a one-page report confirming the completion of the process for the selected warehouse:

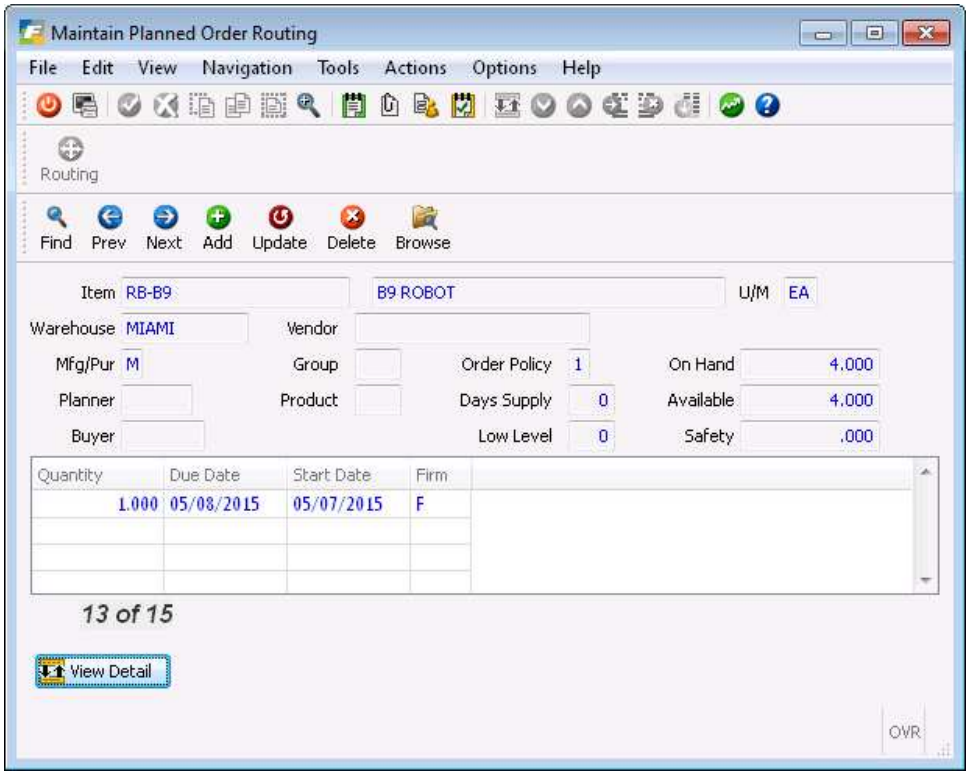


```
07/31/2014 12:06:55              ABC MANUFACTURING                        Page: 1
 User: bettyb                      CRP Generation                      Pgm: cr202
================================================================================


                              Selection Options


                        ----- Generation Options -------
                             Warehouse MIAMI
                            Start Date 07/31/2014
                              End Date 07/30/2015

                        Date of Last Generation 01/01/2014


                      CRP Generation Completed at: 12:06:56
```

### Maintain Planned Order Routing

This menu option is used to make changes to the routings that were previously generated for planned production orders. Each generated planned order includes the routing to produce the planned units. This option allows you to change the associated resources needed for one or more labor steps on a routing.

The following window displays:




Select the Find option and enter the search criteria to display items with planned orders. Then select Update to access the planned order(s) displayed on the lower portion of the screen. The following columns are displayed:

**Quantity –** The planned order quantity

**Due Date –** The planned order's due date

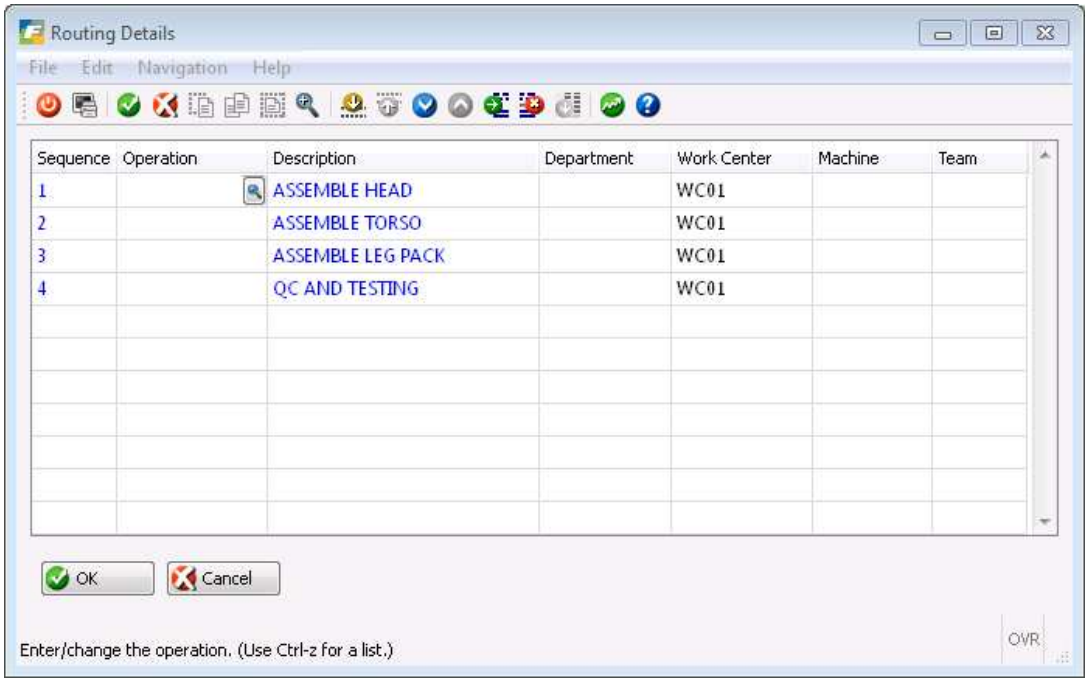
**Start Date –** The date the planned order should be released to complete by the due date

**Firm –** Enter 'F' if this order should NOT be regenerated during an MRP generation. Leave blank to allow the order to be regenerated.

> **NOTE:** If you change the planned order routing, but leave the Firm flag blank, a later MRP generation run will erase the routing changes.

To change a planned order's routing, place the cursor on the desired order, and click the 

button. The following window displays:




**Sequence –** The sequence defines the order in which the labor steps will be executed. You cannot change this value.

**Operation –** Standard Operations pre-define the department, work center, machine and/or team to use as defaults. If you have entered a Standard Operation in the Standard Rourint module, you can enter it's operation code here to pre-fill the rest of the values for the labor step.

**Description –** The description for the labor step. You cannot change this value

**Department –** Enter or select a valid department for the warehouse in which the planned order was created. You can click the button to see a list of departments. This is an optional value.

**Work Center –** Enter or select a valid work center for the warehouse in which the planned order was created. You can click the button to see a list of work centers. This is an optional value.

**Machine –** Enter or select a valid machine for the warehouse in which the planned order was created. You can click the button to see a list of machines. This is an optional value.

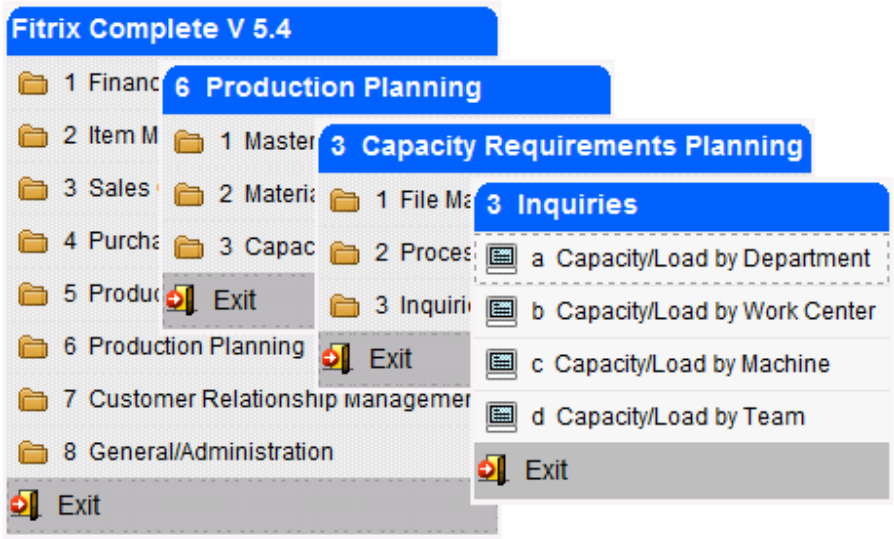
**Team –** Enter or select a valid team for the warehouse in which the planned order was created. You can click the button to see a list of teams. This is an optional value.

# Chapter 4

# Inquiries

In this chapter we will cover the various inquiries available. These include

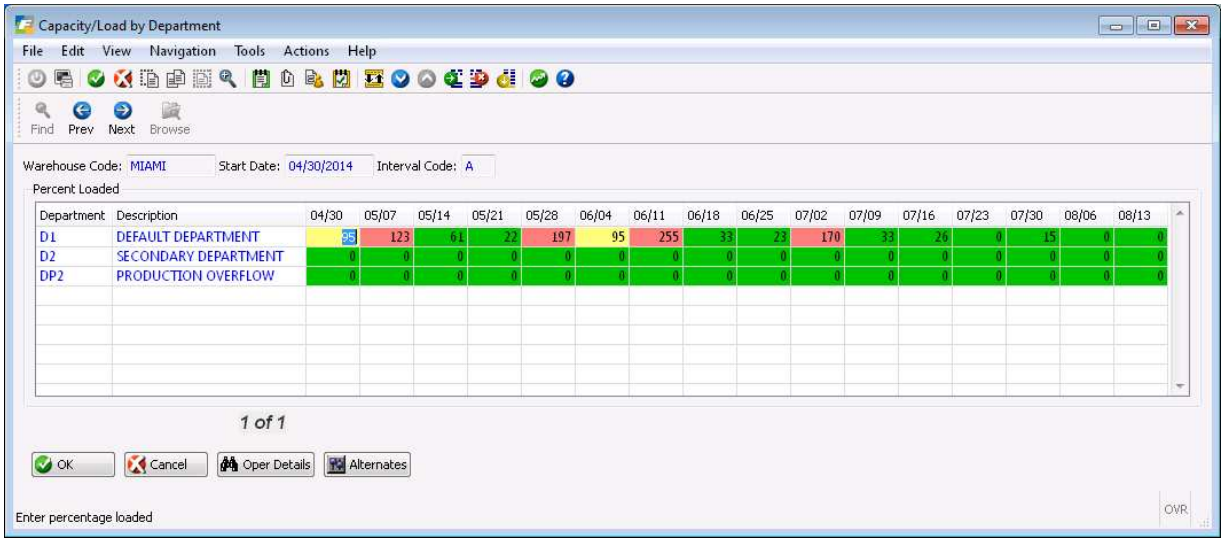
- Capacity vs Load by Department
- Capacity vs Load by Work Center
- Capacity vs Load by Machine
- Capacity vs Load by Team



# Capacity/Load by Department

Use this menu option to view the capacity/load for all departments in a selected production facility (warehouse and it will default to the default warehouse in the Order Entry Defaults table). The departments are displayed with their description and a series of time period intervals representing the percentage load on the department. The time period data is expressed as a percent (load divided by capacity). If the load is greater than the capacity, the percent is displayed with a red background. If the load is approaching capacity, it is displayed in yellow, and if the load is low or not approaching capacity, is it displayed in green. The threshold levels for the yellow and green display are entered in the Setup Production Scheduling option.

The following screen displays:




Select the Find option and then enter:

**Warehouse Code** – enter the code for the production facility you want to view

**Start Date** – enter a starting date for time period intervals to display. Planned orders and open orders with hours remaining in their labor routing steps will be loaded into the time period intervals to the right. Each labor routing step's start and due date will be used to determine the time period interval to be loaded. The default value is the current system date.

**Interval Code** – Enter a time period interval to control how the remaining hours on planned and open orders will be displayed. The interval represents multiple time periods, each of which can be weekly, bi-weekly, monthly, semi-weekly, 4-weekly, or quarterly. The default is from the Setup Production Scheduling option.

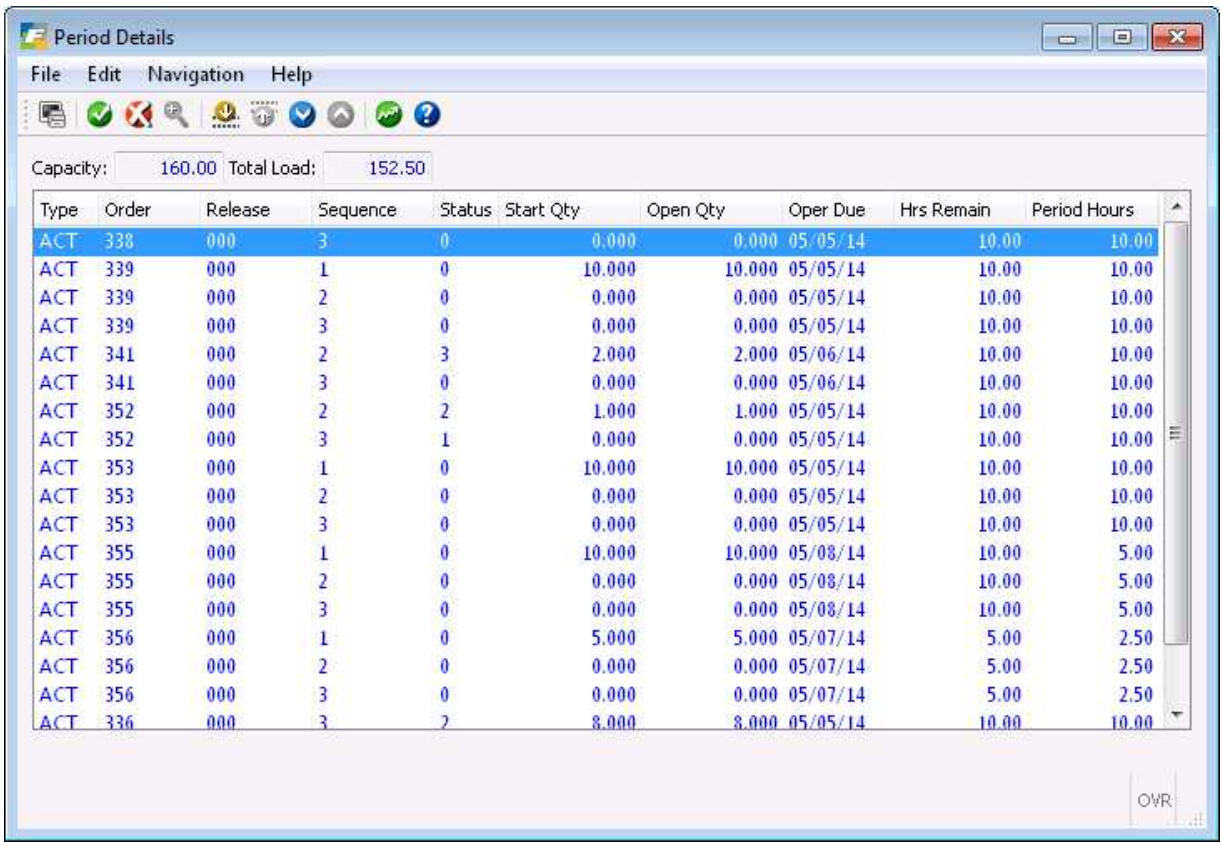
After you have selected the above values, click OK, and a list of departments will display for the facility. The columns are:

**Department** – the department in the facility

**Description** – the free-form description of the department.

**Time Period Intervals** – multiple columns are displayed representing time periods consistent with the Period Interval Chosen. If planned or open production orders have labor routing steps with start/due dates that are within the period start date columns, the associated department for the labor step is displayed for the matching column. If the department is over-committed for that time period (i.e. the department's capacity for the time period is less than the total hours for all production order labor steps), it is displayed in red. If the department is approaching capacity for that time period, it is displayed in yellow. If the department has sufficient or excess capacity for the time period, it is displayed in green.

Oper Details - To see the labor routing step details for all planned and open orders in a specific time period, click directly on the time period, then click this button. If no details exist for the time period, a message will display. The following screen displays:




| Type | Order | Release | Sequence | Status | Start Qty | Open Qty | Oper Due | Hrs Remain | Period Hours |
|---|---|---|---|---|---|---|---|---|---|
| ACT | 338 | 000 | 3 | 0 | 0.000 | 0.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 339 | 000 | 1 | 0 | 10.000 | 10.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 339 | 000 | 2 | 0 | 0.000 | 0.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 339 | 000 | 3 | 0 | 0.000 | 0.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 341 | 000 | 2 | 3 | 2.000 | 2.000 | 05/06/14 | 10.00 | 10.00 |
| ACT | 341 | 000 | 3 | 0 | 0.000 | 0.000 | 05/06/14 | 10.00 | 10.00 |
| ACT | 352 | 000 | 2 | 2 | 1.000 | 1.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 352 | 000 | 3 | 1 | 0.000 | 0.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 353 | 000 | 1 | 0 | 10.000 | 10.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 353 | 000 | 2 | 0 | 0.000 | 0.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 353 | 000 | 3 | 0 | 0.000 | 0.000 | 05/05/14 | 10.00 | 10.00 |
| ACT | 355 | 000 | 1 | 0 | 10.000 | 10.000 | 05/08/14 | 10.00 | 5.00 |
| ACT | 355 | 000 | 2 | 0 | 0.000 | 0.000 | 05/08/14 | 10.00 | 5.00 |
| ACT | 355 | 000 | 3 | 0 | 0.000 | 0.000 | 05/08/14 | 10.00 | 5.00 |
| ACT | 356 | 000 | 1 | 0 | 5.000 | 5.000 | 05/07/14 | 5.00 | 2.50 |
| ACT | 356 | 000 | 2 | 0 | 0.000 | 0.000 | 05/07/14 | 5.00 | 2.50 |
| ACT | 356 | 000 | 3 | 0 | 0.000 | 0.000 | 05/07/14 | 5.00 | 2.50 |
| ACT | 336 | 000 | 3 | 2 | 8.000 | 8.000 | 05/05/14 | 10.00 | 10.00 |

**Capacity**– The department's capacity in hours, for the selected time period.

**Total Load** – The total hours for labor routing steps from planned or open orders, with start/due dates in this time period.

**Type –** ACT for active/open orders, PLN for planned orders

**Order** – the production order

**Release** – the production order release, for ACT type orders

**Sequence** – the labor routing step sequence

**Status** – the labor routing step status:

0 – production packet not printed

1 – not started, previous labor step not started

2 – not started, prvious started

3 – not started, previous completed

4 – started

5 – completed

**Start Quantity** – the starting quantity for the labor step to complete

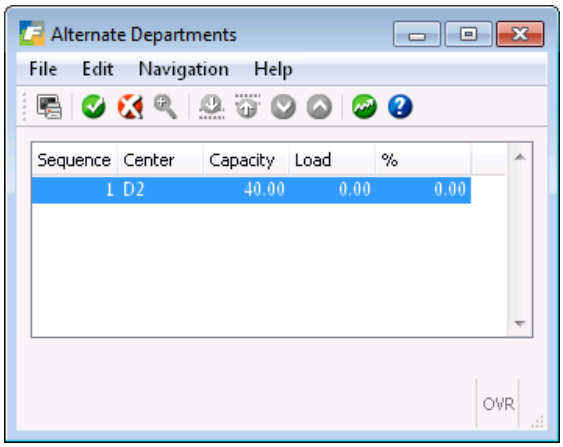
**Open Quantity** – the remaining quantity to be completed

**Oper Due** – the current due date for the labor step

**Hrs Remain** – the hours remaining for the labor step to complete

**Period Hours** – the hours remaining within the current time period interval

Alternates - if any department is overloaded for a given time period place the cursor in the department/interval field and click on this buttom to see alternate departments.

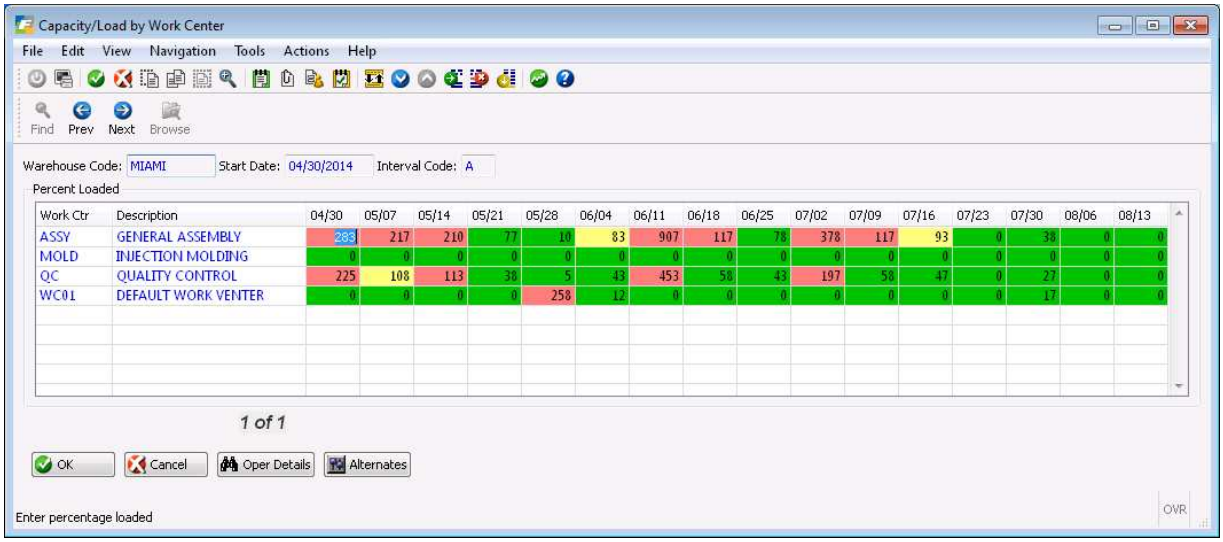



The screen lists all departments defined as alternates to the current department. For the same time period, it displays the department's capacity and load, with a calculated percentage.

# Capacity/Load by Work Center

Use this menu option to view the capacity/load for all work centers in a selected production facility (warehouse and it will default to the default warehouse in the Order Entry Defaults table). The work centers are displayed with their description and a series of time period intervals representing the percentage load on the work center. The time period data is expressed as a percent (load divided by capacity). If the load is greater than the capacity, the percent is displayed with a red background. If the load is approaching capacity, it is displayed in yellow, and if the load is low or not approaching capacity, is it displayed in green. The threshold levels for the yellow and green display are entered in the Setup Production Scheduling option.

The following screen displays:




Select the Find option and then enter:

**Warehouse Code** – enter the code for the production facility you want to view

**Start Date** – enter a starting date for time period intervals to display. Planned and open orders with hours remaining in their labor routing steps will be loaded into the time period intervals to the right. Each labor routing step's start and due date will be used to determine the time period interval to be loaded. The default value is the current system date.

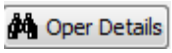
**Interval Code** – Enter a time period interval to control how the remaining hours on planned and open orders will be displayed. The interval represents multiple time periods, each of which can be weekly, bi-weekly, monthly, semi-weekly, 4-weekly, or quarterly. The default is from the Setup Production Scheduling option.

After you have selected the above values, click OK, and a list of work centers will display for the facility. The columns are:

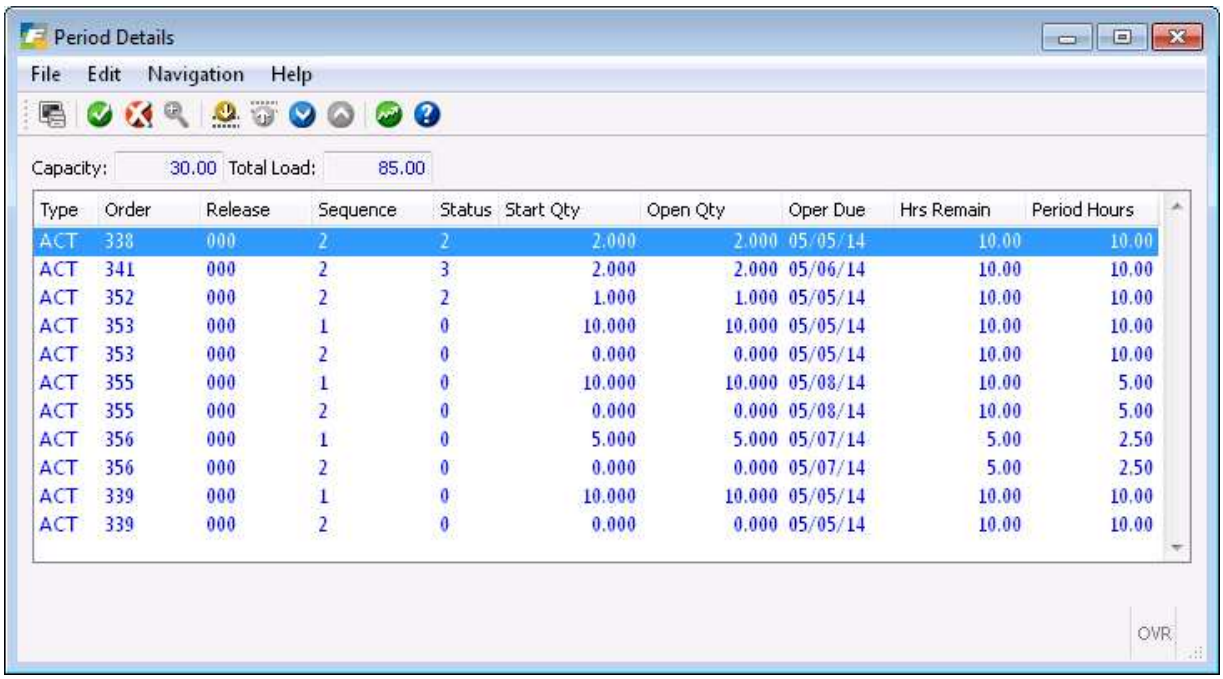
**Work Ctr** – the work center in the facility

**Description** – the free-form description of the work center.

**Time Period Intervals** – multiple columns are displayed representing time periods consistent with the Period Interval Chosen. If planned or open production orders have labor routing steps with start/due dates that are within the period start date columns, the associated work center for the labor step is displayed for the matching column. If the work center is over-committed for that time period (ie the work center's capacity for the time period is less than the total hours for all production order labor steps), it is displayed in red. If the work center is approaching capacity for that time period, it is displayed in yellow. If the work center has sufficient or excess capacity for the time period, it is displayed in green.



- To see the labor routing step details for all orders in a specific time period, click directly on the time period, then click this button. If no details exist for the time period, a message will display. The following screen displays:




**Capacity**– The work center's capacity in hours, for the selected time period.

**Total Load** – The total hours for labor routing steps fro planned or open production orders, with start/due dates in this time period.

**Type –** ACT for active/open orders, PLN for planned orders

**Order** – the production order

**Release** – the production order release, for ACT type orders

**Sequence** – the labor routing step sequence

**Status** – the labor routing step status:

0 – production packet not printed

1 – not started, previous labor step not started

2 – not started, prvious started

3 – not started, previous completed

4 – started

5 – completed

**Start Quantity** – the starting quantity for the labor step to complete

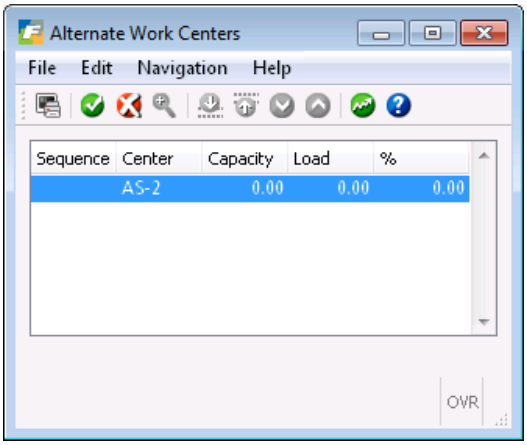
**Open Quantity** – the remaining quantity to be completed

**Oper Due** – the current due date for the labor step

**Hrs Remain** – the hours remaining for the labor step to complete

**Period Hours** – the hours remaining within he current time period interval


- if any work center is overloaded for a given time period place the cursor in the work center/interval field and click on this buttom to see alternate work centers.

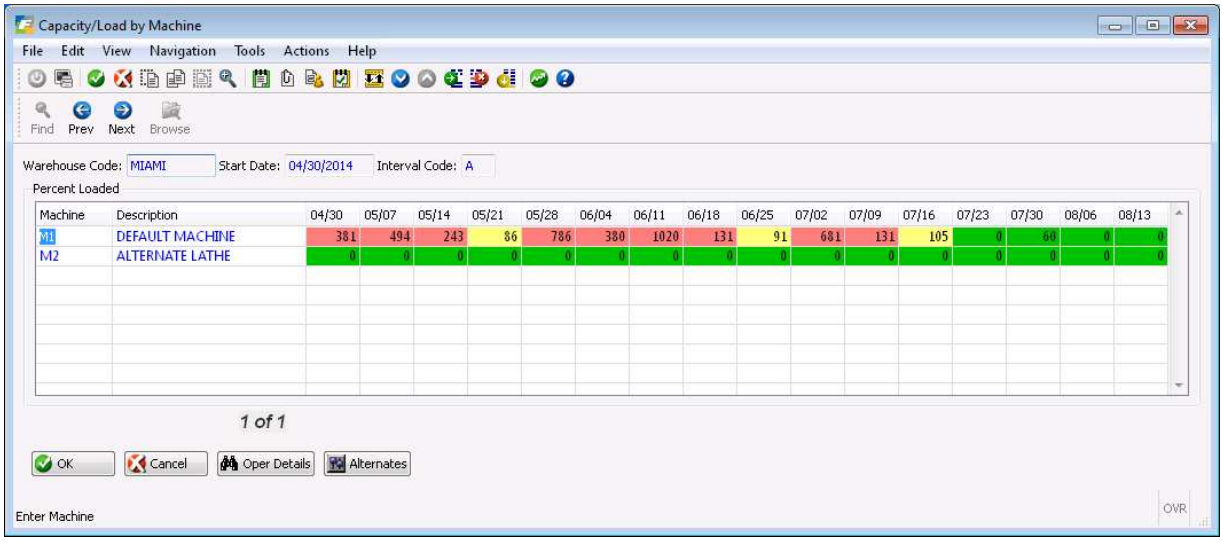


The screen lists all work centers defined as alternates to the current work center. For the same time period, it displays the work center's capacity and load, with a calculated percentage. To balance the load you must then go to the planned or open production order and change the work center

# Capacity/Load by Machine

Use this menu option to view the capacity/load for all machines in a selected production facility (warehouse and it will default to the default warehouse in the Order Entry Defaults table). The machines are displayed with their description and a series of time period intervals representing the percentage load on the machine. The time period data is expressed as a percent (load divided by capacity). If the load is greater than the capacity, the percent is displayed with a red background. If the load is approaching capacity, it is displayed in yellow, and if the load is low or not approaching capacity, is it displayed in green. The threshold levels for the yellow and green display are entered in the Setup Production Scheduling option.

The following screen displays:




Select the Find option and then enter:

**Warehouse Code** – enter the code for the production facility you want to view

**Start Date** – enter a starting date for time period intervals to display. Planned and open production orders with hours remaining in their labor routing steps will be loaded into the time period intervals to the right. Each labor routing step's start and due date will be used to determine the time period interval to be loaded. The default value is the current system date.

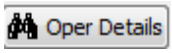
**Interval Code** – Enter a time period interval to control how the remaining hours on planned and open orders will be displayed. The interval represents multiple time periods, each of which can be weekly, bi-weekly, monthly, semi-weekly, 4-weekly, or quarterly. The default is from the Setup Production Scheduling option.

After you have selected the above values, click OK, and a list of machines will display for the facility. The columns are:

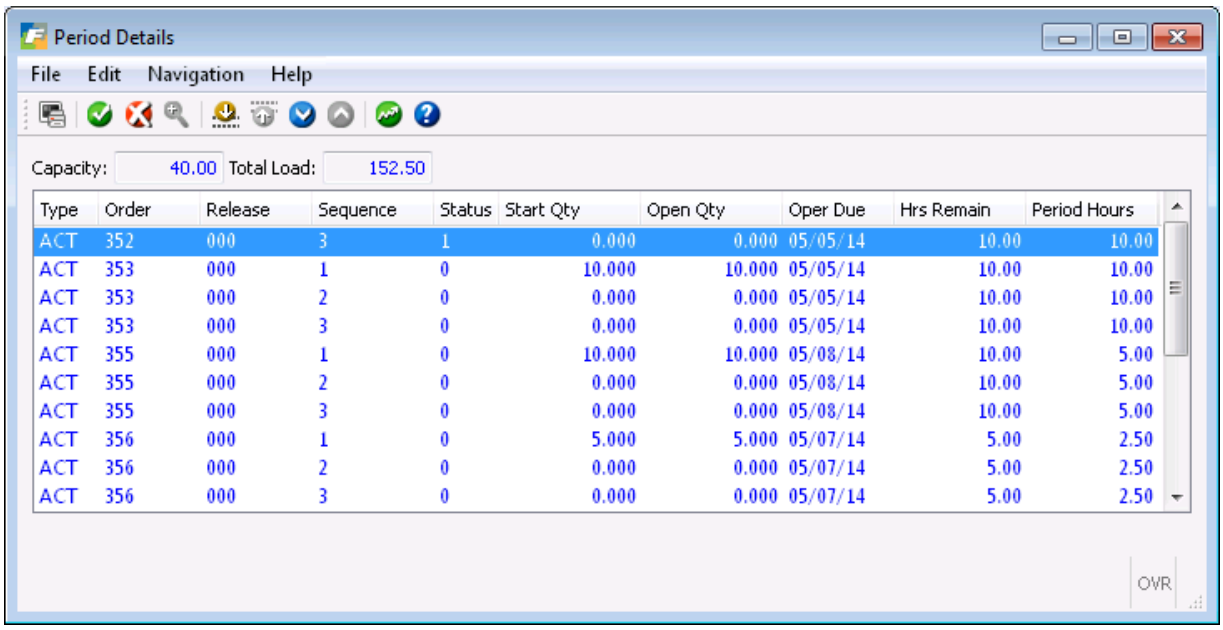
**Machine** – the machine in the facility

**Description** – the free-form description of the machine.

**Time Period Intervals** – multiple columns are displayed representing time periods consistent with the Period Interval Chosen. If planned or open production orders have labor routing steps with start/due dates that are within the period start date columns, the associated machine for the labor step is displayed for the matching column. If the machine is over-committed for that time period (ie the machine's capacity for the time period is less than the total hours for all production order labor steps), it is displayed in red. If the machine is approaching capacity for that time period, it is displayed in yellow. If the machine has sufficient or excess capacity for the time period, it is displayed in green.




- To see the labor routing step details for all planned or open orders in a specific time period, click directly on the time period, then click this button. If no details exist for the time period, a message will display. The following screen displays:




**Capacity**– The machine's capacity in hours, for the selected time period.

**Total Load** – The total hours for labor routing steps with start/due dates in this time period.

**Type –** ACT for active/open orders, PLN for planned orders

**Order** – the production order

**Release** – the production order release, for ACT type orders

**Sequence** – the labor routing step sequence

**Status** – the labor routing step status:

0 – production packet not printed

1 – not started, previous labor step not started

2 – not started, prvious started

3 – not started, previous completed

4 – started

5 – completed

**Start Quantity** – the starting quantity for the labor step to complete

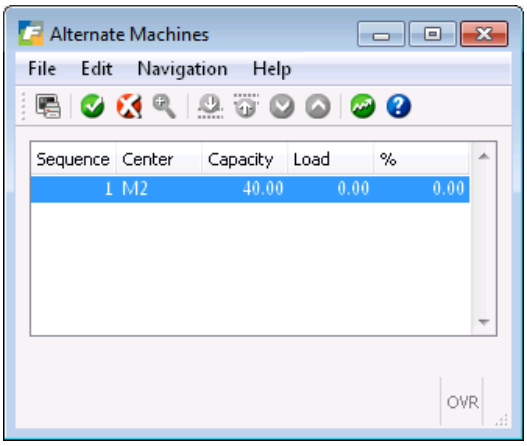
**Open Quantity** – the remaining quantity to be completed

**Oper Due** – the current due date for the labor step

**Hrs Remain** – the hours remaining for the labor step to complete

**Period Hours** – the hours remaining within he current time period interval


- if any machine is overloaded for a given time period place the cursor in the machine/interval field and click on this buttom to see alternate machines.

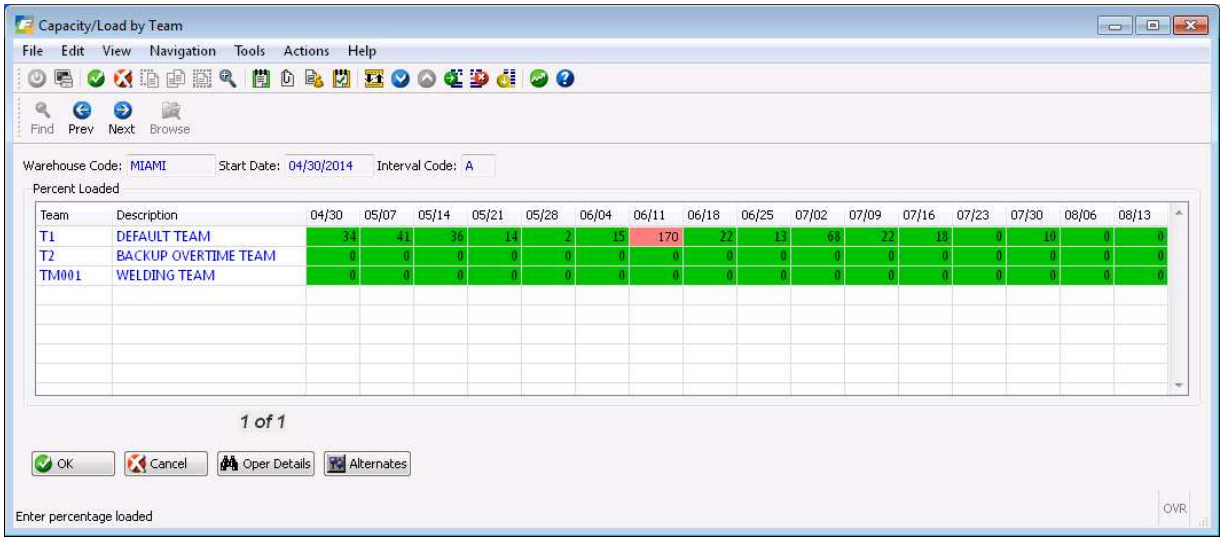



The screen lists all machines defined as alternates to the current machines. For the same time period, it displays the machine's capacity and load, with a calculated percentage.

# Capacity Load by Team

Use this menu option to view the capacity/load for all teams in a selected production facility (warehouse and it will default to the default warehouse in the Order Entry Defaults table). The teams are displayed with their description and a series of time period intervals representing the percentage load on the team. The time period data is expressed as a percent (load divided by capacity). If the load is greater than the capacity, the percent is displayed with a red background. If the load is approaching capacity, it is displayed in yellow, and if the load is low or not approaching capacity, is it displayed in green. The threshold levels for the yellow and green display are entered in the Setup Production Scheduling option.

The following screen displays:.




Select the Find option and then enter:

**Warehouse Code** – enter the code for the production facility you want to view

**Start Date** – enter a starting date for time period intervals to display. Planned and open production orders with hours remaining in their labor routing steps will be loaded into the time period intervals to the right. Each labor routing step's start and due date will be used to determine the time period interval to be loaded. The default value is the current system date.

**Interval Code** – Enter a time period interval to control how the remaining hours on planned and open orders will be displayed. The interval represents multiple time periods, each of which can be weekly, bi-weekly, monthly, semi-weekly, 4-weekly, or quarterly. The default is from the Setup Production Scheduling option.

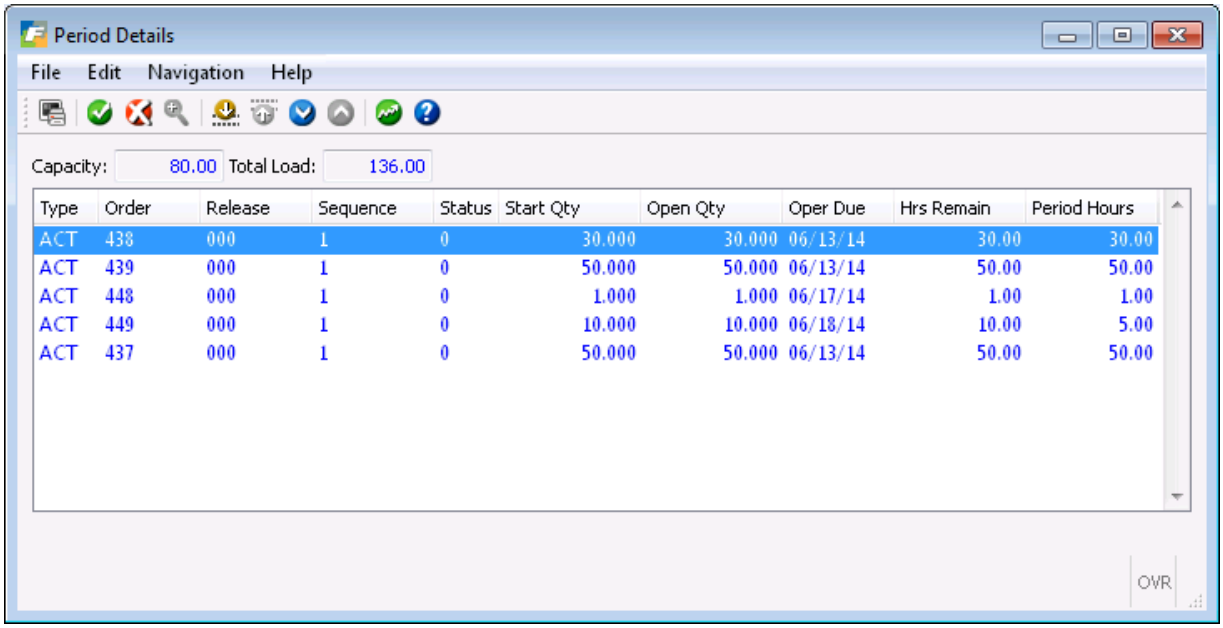
After you have selected the above values, click OK, and a list of teams will display for the facility. The columns are:

**Team** – the team in the facility

**Description** – the free-form description of the team.

**Time Period Intervals** – multiple columns are displayed representing time periods consistent with the Period Interval Chosen. If planned or open production orders have open labor routing steps with start/due dates that are within the period start date columns, the associated team for the labor step is displayed for the matching column. If the team is over-committed for that time period (ie the team's capacity for the time period is less than the total hours for all production order labor steps), it is displayed in red. If the team is approaching capacity for that time period, it is displayed in yellow. If the team has sufficient or excess capacity for the time period, it is displayed in green.

Oper Details - To see the labor routing step details for all planned and open orders in a specific time period, click directly on the time period, then click this button. If no details exist for the time period, a message will display. The following screen displays:




**Capacity**– The team's capacity in hours, for the selected time period.

**Total Load** – The total hours for labor routing steps with start/due dates in this time period.

**Type –** ACT for active/open orders, PLN for planned orders

**Order** – the production order

**Release** – the production order release, for ACT type orders

**Sequence** – the labor routing step sequence

**Status** – the labor routing step status:

0 – production packet not printed

1 – not started, previous labor step not started

2 – not started, prvious started

3 – not started, previous completed

4 – started

5 – completed

**Start Quantity** – the starting quantity for the labor step to complete

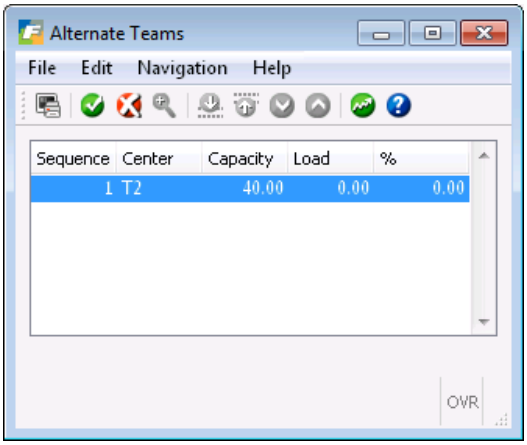
**Open Quantity** – the remaining quantity to be completed

**Oper Due** – the current due date for the labor step

**Hrs Remain** – the hours remaining for the labor step to complete

**Period Hours** – the hours remaining within he current time period interval


- if any team is overloaded for a given time period place the cursor in the team/interval field and click on this buttom to see alternate teams.




The screen lists all teams defined as alternates to the current team. For the same time period, it displays the team's capacity and load, with a calculated percentage.

# Index