Benchmate® for Windows
Maintenance Management Software

Version 9

Tutorial

A road map for learning to use Benchmate.

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The Benchmate Tutorial

Benchmate Maintenance Management Software is simple to install and use. Benchmate does much of the work for you once your equipment, spare parts and preventive maintenance databases are built. All you need are the keys to getting started.

This tutorial provides a roadmap to follow for successful use of your maintenance database. Simply follow the tutorial as you would follow directions to any geographical location.

In the next 60 or so pages you'll find the hands-on equivalent of an on-site demonstration and tutorial performed by a Benchmate training representative. You'll learn key strategies and steps that make using Benchmate a smooth and simple part of your everyday work.

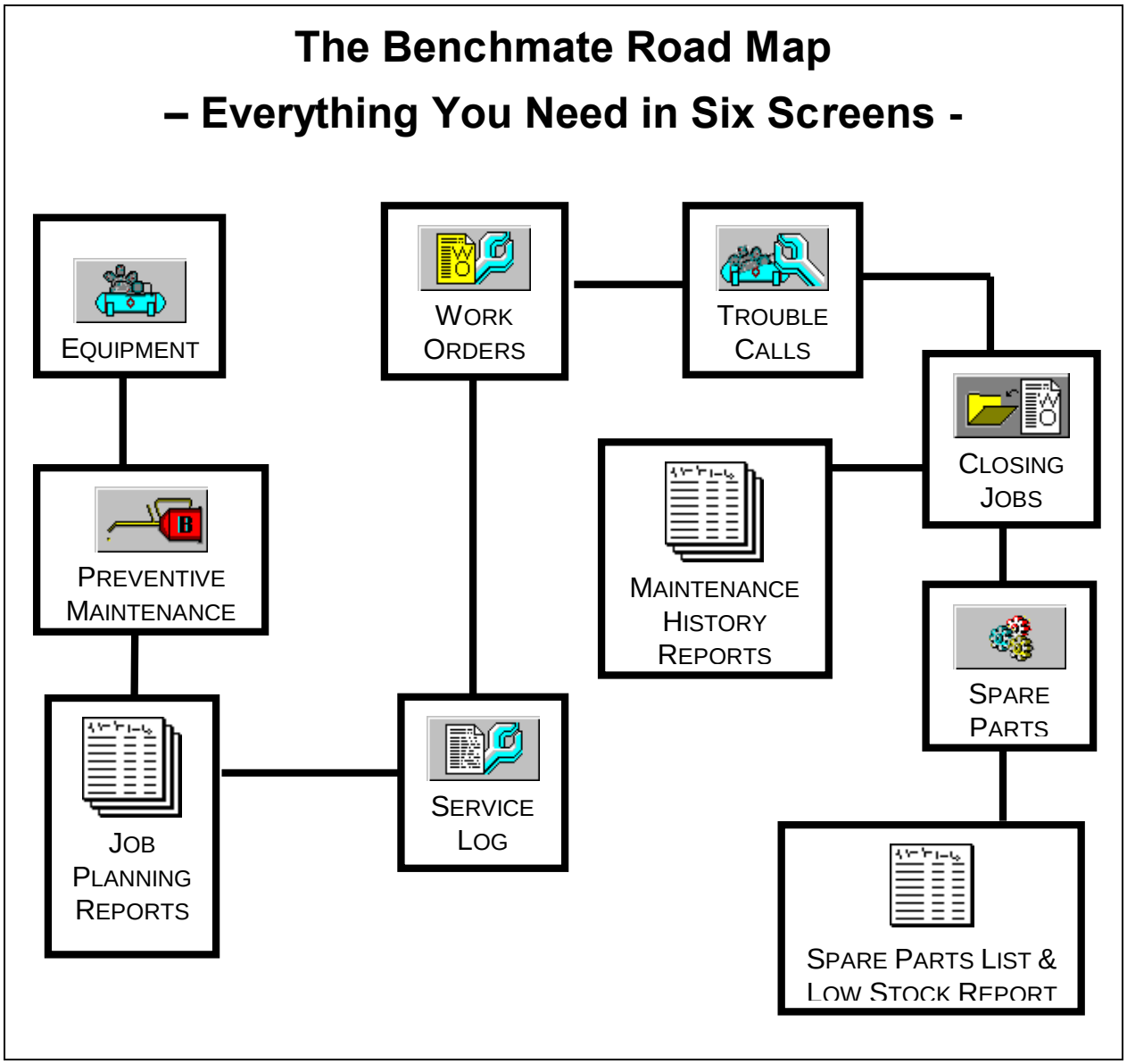
This tutorial will show you how to:

1. Establish a Preventive Maintenance Program,
2. Set up Work Orders for planned maintenance and,
3. Prepare requests for maintenance using Trouble Calls

You will also learn how to:

- Close scheduled jobs and record unplanned activities using the Service Log
- Track work progress using reports
- Access work history
- Track critical parts, and manage and update inventory.

The Benchmate Roadmap

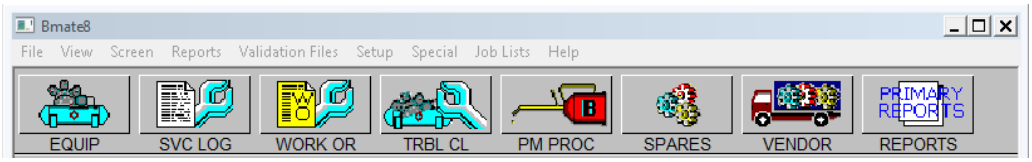


Start by taking a quick tour of the six major screens. First start **Benchmate** by double-clicking **Benchmate** desktop icon.

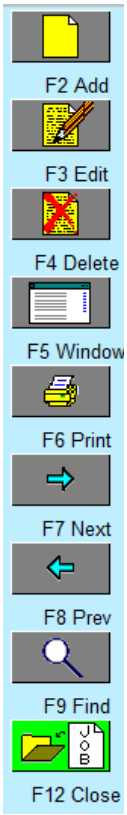
When the Benchmate PASSWORD window appears, click OK, to use the default password. Later you can establish passwords and permissions for each user.

There are two button bars on the Benchmate program window:

1. A horizontal **Button Bar** along the top of the window. The Button Bar selects the data (for example, Equipment or PM Procedure) you are going to view.

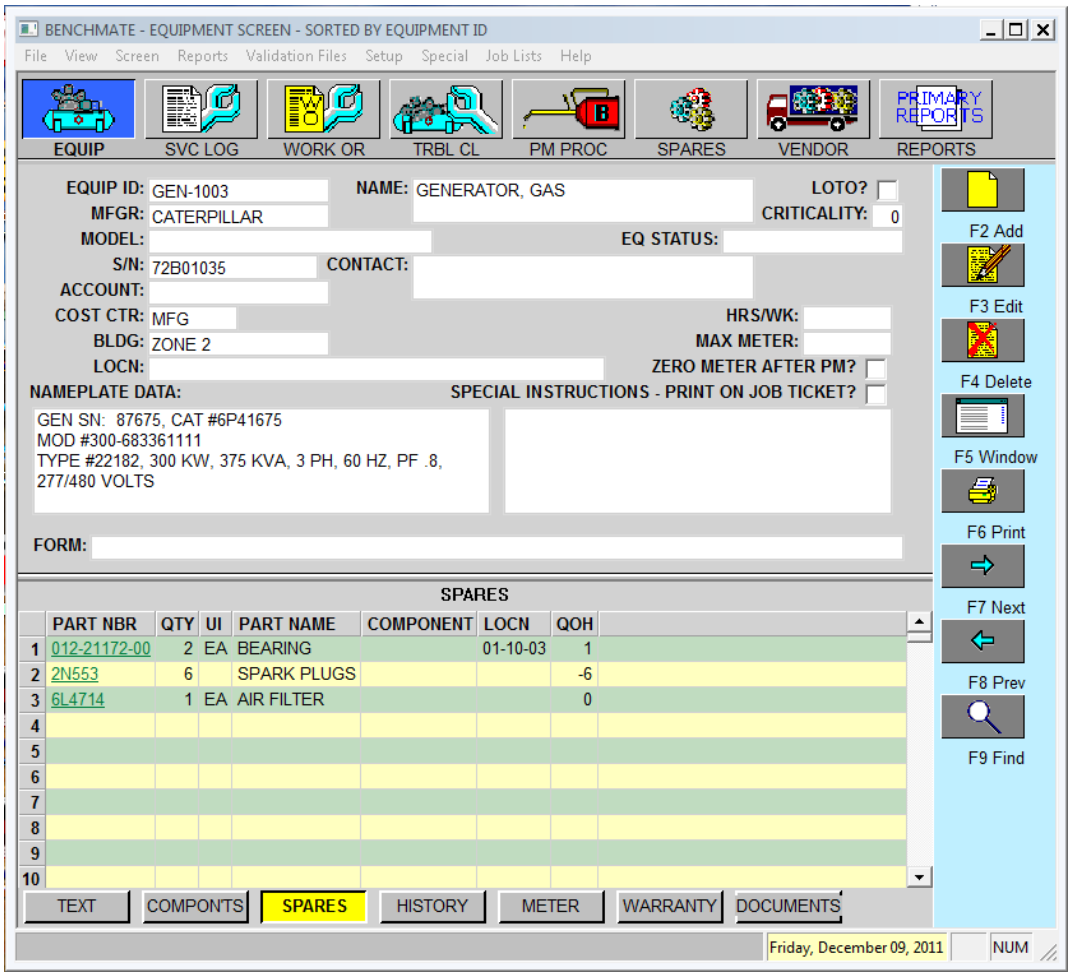


2. A vertical **Function Bar** on the right side of the screen. The Function Bar controls what you do with associated screen (for example, *Add a new record*, *Delete a record* or *View the next record*).



Click **EQUIP** on the Button Bar to display an Equipment screen. Each screen describes an equipment on which you regularly perform maintenance and keep maintenance records. It may contain:

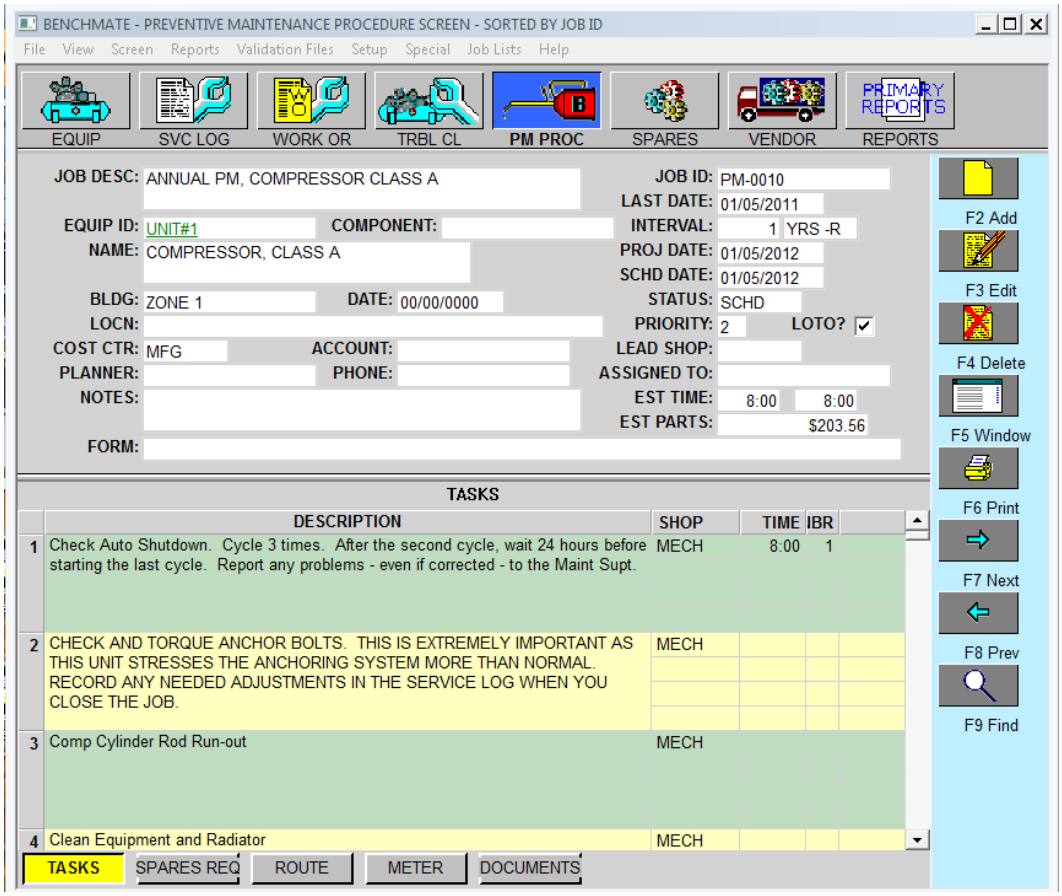
- Nameplate data, such as capacity, speed, Model #, or Serial #
- Identification and location of related equipment (for example, control box, power source, major components)
- Description of major components
- List of spare parts
- Date and brief description of the last 50 jobs on this equipment
- List of documents associated with the equipment.



Equipment Screen

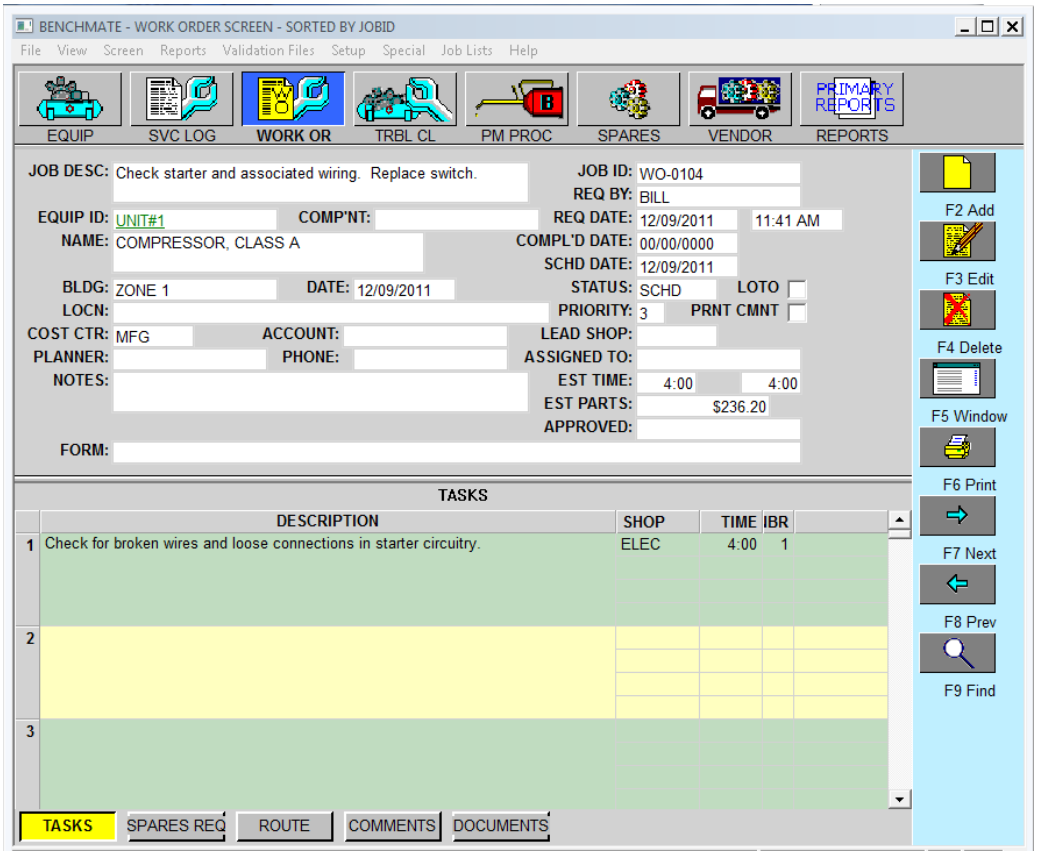
Next, click the **PM PROC** button to display a PM screen. The PM screen describes each regularly scheduled job (Preventive Maintenance, or ñPMò) job. PMs can be scheduled at intervals of one day to 99 years or by equipment usage (e.g.: by run time). The PM screen contains:

- Date the job is to be done
- The name of the shop, craft, or person to whom the job is assigned
- Detailed, step-by-step description of the job
- Recommended parts list for the job
- List of documents associated with this PM procedure.



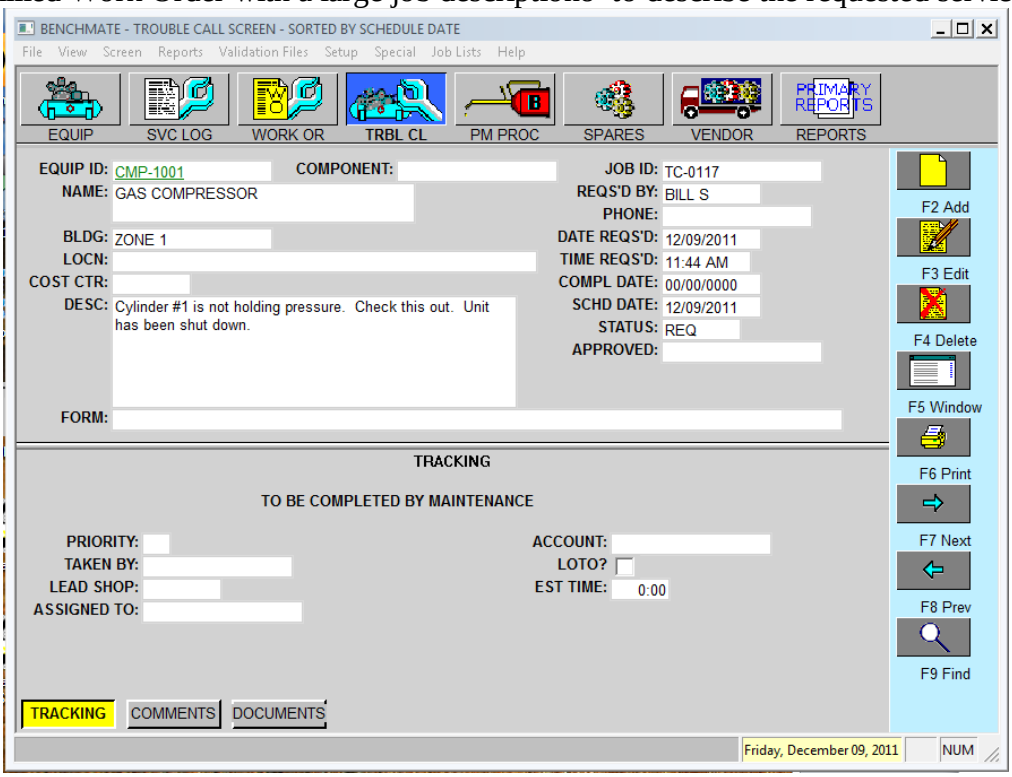
Click the **WORK OR** button to display a Work Order screen. Work Orders are one-time jobs, typically prepared by maintenance for repair, upgrades or capital projects that are planned in advance. They may require the services of many shops or contractors.

The Work Order screen is similar to the PM screen. But, instead of containing rescheduling information, it identifies the person requesting the job and the date/time it was requested.



Work Order Screen

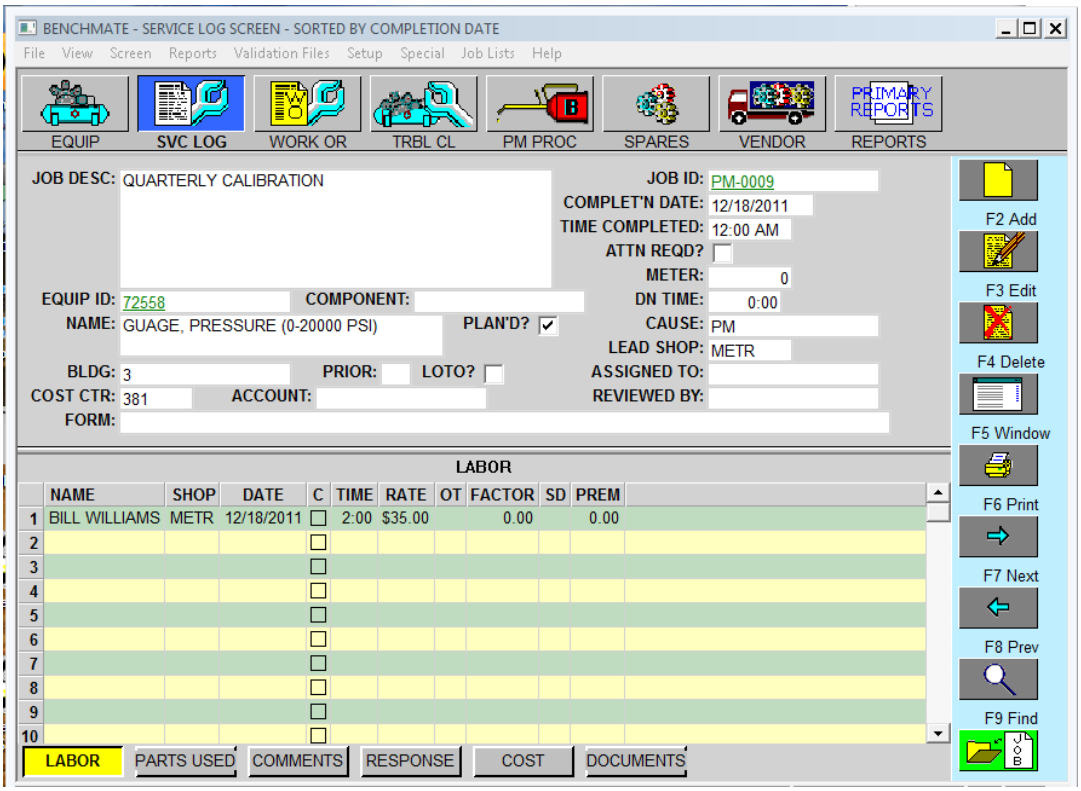
Next, click the **TRBL CL** button to display a Trouble Call screen. Trouble Calls are requests for maintenance service. Often they originate in departments other than Maintenance. Typically these jobs are not planned, but they must be recorded, assigned, and tracked. Think of the Trouble Call as a simplified Work Order with a large job descriptionð to describe the requested service.



Trouble Call Screen

Click the **Svc Log** button to view the Service Log screen. This screen records completed jobs. The Service Log screen contains:

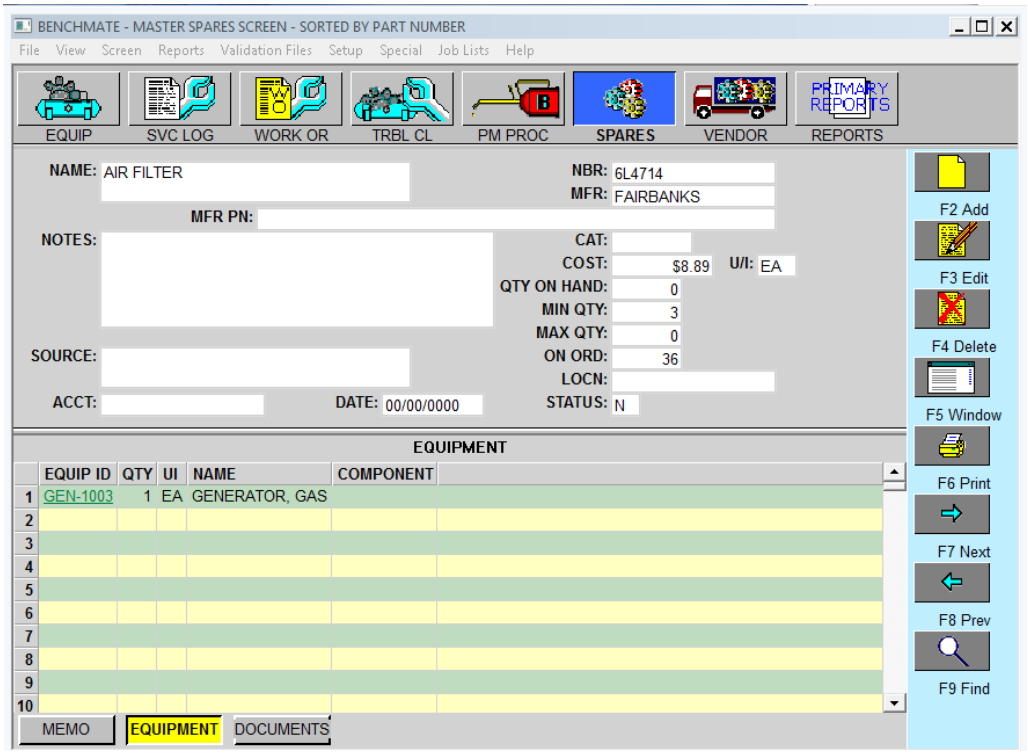
- Date job was completed
- Who worked on the job, when, and how long
- What parts were used
- Notes or comments
- A flag to identify jobs or equipment needing further attention
- A cause code to identify the root cause (reason or problem)



Service Log Screen

Next, click the **SPARES** button. The Spare Parts screen identifies critical and frequently used parts. It also identifies the equipment each part is used on, where to get the part, its cost, storeroom location, and other details about it.

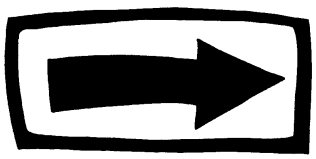
As each part is used and recorded in the Service Log screen, the quantity used is deducted from the quantity-on-hand in the Spare Parts screen. If a Minimum Quantity is set, the part will be flagged and included in a Low Stock Report when the quantity falls below the minimum quantity indicated.



Spares Screen

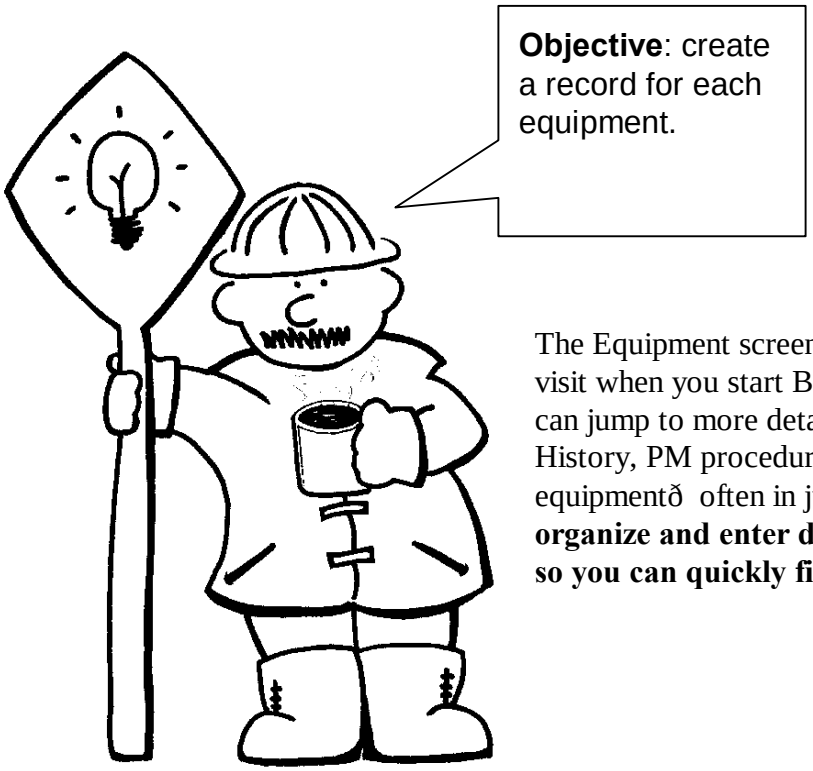
These six screens are the most important screens. As you follow the roadmap, this tutorial leads you through basic steps and crucial processes to ensure that Benchmate performs the way you want it to.

NEXT STOP, THE EQUIPMENT SCREEN.



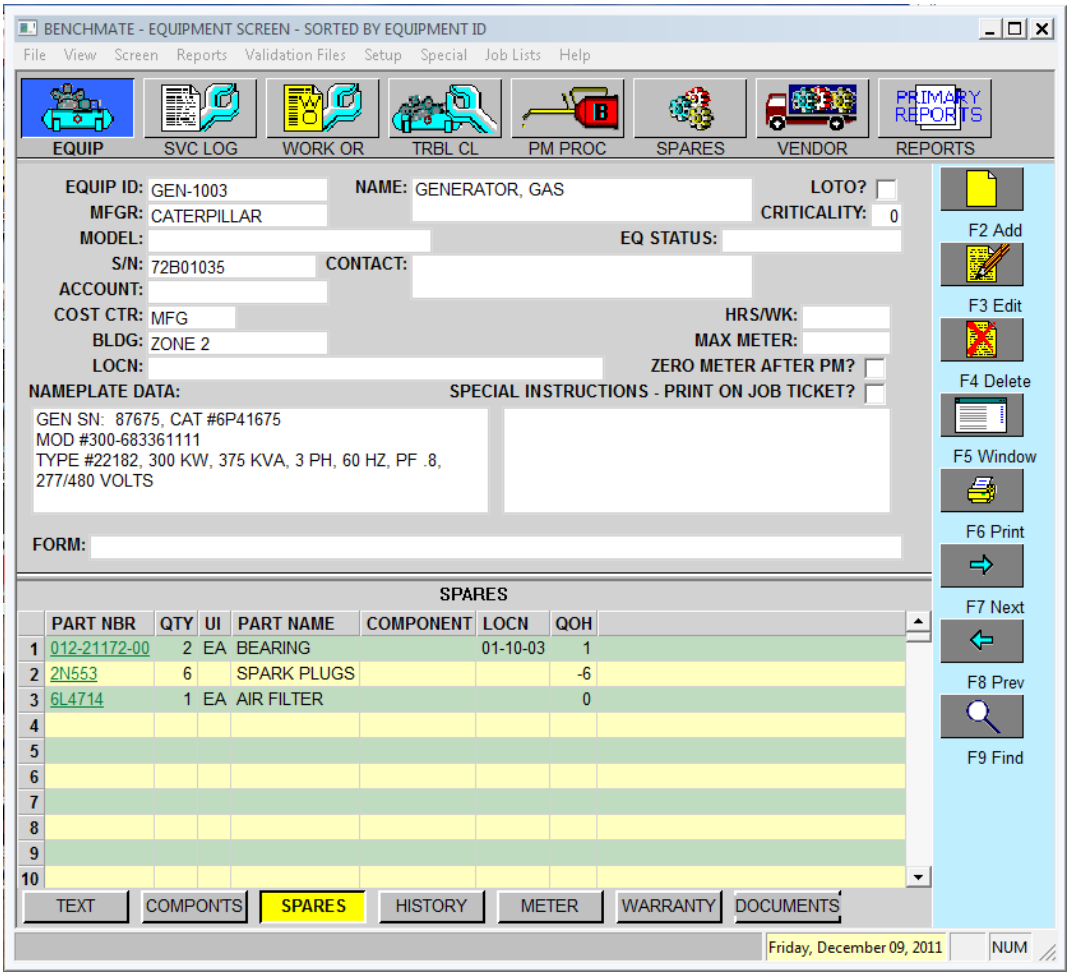
The Equipment Screen

Gearing Up



The Equipment screen is often the first screen you will visit when you start Benchmate. From this screen, you can jump to more detailed screens (for example, Work History, PM procedures, or Spare Parts) related to that equipmentð often in just one click. **It is important to organize and enter data into this screen systematically so you can quickly find it later.**

To begin, click the **EQUIP** button.



Equipment Screen

This screen is the key to successfully establishing a working database. Itôs important to complete certain critical fields in a consistent manner so you can find equipment again quickly. The most important fields are:

- **EQUIP ID**: equipment ID or tag number
- **NAME**: brief description
- **BLDG**: area or building where the equipment is located
- **COST CTR**: department operating equipment or major system of which this equipment is a component

Roadblock: A common mistake is to enter more information than necessary in one of these fields. Try to keep it simple so everyone can use the database.

Click F2 Add to open a new, empty Equipment screen. The EQUIP ID field will be highlighted.

Equipment ID Field

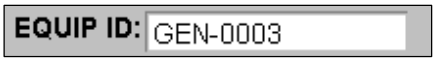
The Equipment ID field is a unique field; no two equipment screens have the same ID. The Equipment ID is a handle or code to identify each equipment. Benchmate uses this handle to connect various types (for example, PM or Work History) of information associated with this equipment for easy reference.

This field contains up to 15 characters (any combination of letters and numbers). We recommend you code this field in one of two ways: *equipment type* or *system*. Both are commonly used and easy to implement. Your plant may already be using one of these schemes.

Equipment Type

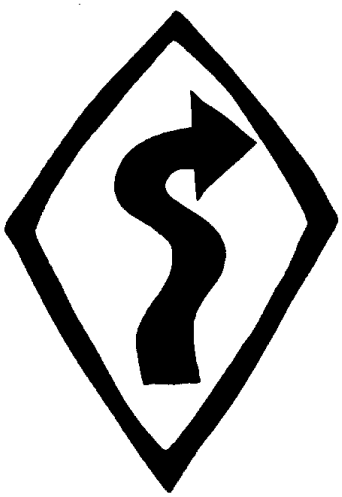
This approach uses a simple one to three character code to identify the equipment type (for example, C = Compressor, T = Turbine, M = Motor, EF = Exhaust Fan) with a subsequent number identifying each different equipment.

To see how this works, type an abbreviation for the type of equipment and then press the **TAB** key. Benchmate adds a dash and four-digit number (for example, Gen-0003). If you already have an ID for your equipment and donôt want Benchmate to add the dash and number, you can turn this off in the Set Up module. (See Help Ÿ Support Ÿ Setup.)



System Code

This approach uses a system or equipment hierarchy contained in the ID. Typically this scheme begins with a system code, followed by a subsystem code, and then an equipment code. Usually two or three steps work best. For example, a system codeï based ID might look like *L004-MTR-0005*, where L004 indicates line 4, MTR stands for motor, and 0005 indicates the fifth motor in line 4. Use this approach only if equipment in your plant is not moved from system to system.



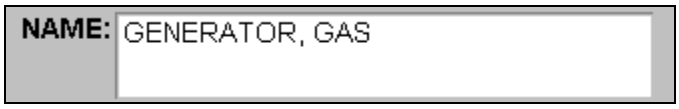
Summary:

Whether you identify equipment by type or system, keep in mind some general guidelines:

1. Establish a naming standard and stick with it.
2. Use characters you recognize and identify with corresponding equipment.
3. Do NOT use the equipmentôs building, location, cost center, or department in the Equipment ID field. Other fields are available for this information and adding it to the ID field limits the databaseôs flexibility and usability and adds to confusion.
4. Stick with a simple naming structure as described above. If yours seems complicated, it probably is, and it wonôt work for you.

Equipment Name Field

After you complete the Equipment ID field and press TAB to move to the EQUIPMENT NAME field. As with the Equipment ID field, this field must be completed before you can save any data on the screen.



This field contains the equipmentôs name or a brief description. It is important to enter this name consistently so you can find the equipment. Start with the generic name of the equipment followed by more specific information (for example, MOTOR, GANTRY CRANE or COMPRESSOR, WAUKESHA #1)

Do not include building, cost center or, location information in this field unless the equipment is a permanent attachment (for example, EXHAUST FAN #1 FOR TOWER BLDG).

Type an easily recognizable and standard name that makes sense to you and your staff. Then press TAB to the Cost Center field.

Cost Center Field

This field identifies the department using the equipment (for example, Engineering, Shipping, Grounds).

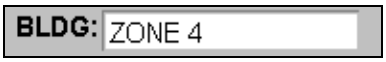
An alternate use of the Cost Center is to identify the system on which the equipment is a part. For example, Line 4, Distiller, Tank-1). You can also address this field by areas such as production lines; for example, P01 (production line 1), P02 (production line 2), and so forth.

The Cost Center field allows for up to eight characters and is validated using the Validation tool in Benchmate Startup. This means that you can only enter values you have previously defined in the Cost Center validation file. Set up the Cost Center validation file before you start using Benchmate for your production system. (See Validation Files Ÿ COST CENTER.)

Double-click the COST CTR field to open the edit box for that field. Click on the F8 - VALDN button to display a list of the valid entries. Click an entry to highlight it, then click **OK** or press TAB to save the entry.

Building Field

This field also identifies a group of equipment, e.g.: a specific building or major system. If most of the plantôs equipment is in a single building, refer to the area in the building where the equipment is located (for example, 1-045 for Building 1, area 45).



Alternatively, the Building field can identify the system to which the equipment belongs (for example, L1 for line 1, C2 for compressor #2, and so forth).

Like the Cost Center field, the Building field requires a previously defined, valid entry — from the Building validation file. (See Validation Files Ÿ BUILDING.)

Double-click the BLDG field to open the edit box for that field. Click on the F8-VLDN button to display a list of the valid entries. Select an entry, then click OK or press **TAB** to finish the entry.

Hint: Many users do not use <u>both</u> the Cost Center and Building fields. This can work if you donôt have a large number of equipment. We do strongly recommend use at least one of these fields as they can help in identifying equipment that works is used in each department or sysem.

Windows on the Equipment Screen

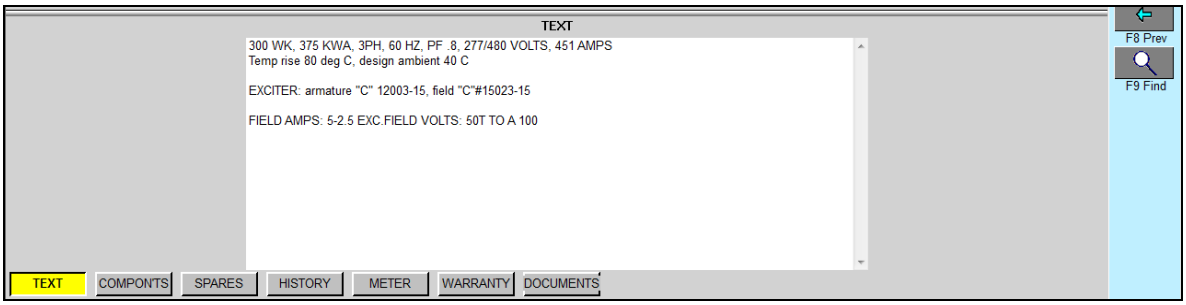
The Equipment screen contains six windows at the bottom of the screen.— **TEXT**, **COMPON'TS**, **SPARES**, **HISTORY**, **METER**, **WARRANTY AND DOCUMENTS**.

When you are done entering data on the equipment screen and all its windows, click **F12 SAVE** to send the information on the screen to the database for permanent storage. You can retrieve and make changes later if needed.

Equipment Text Window

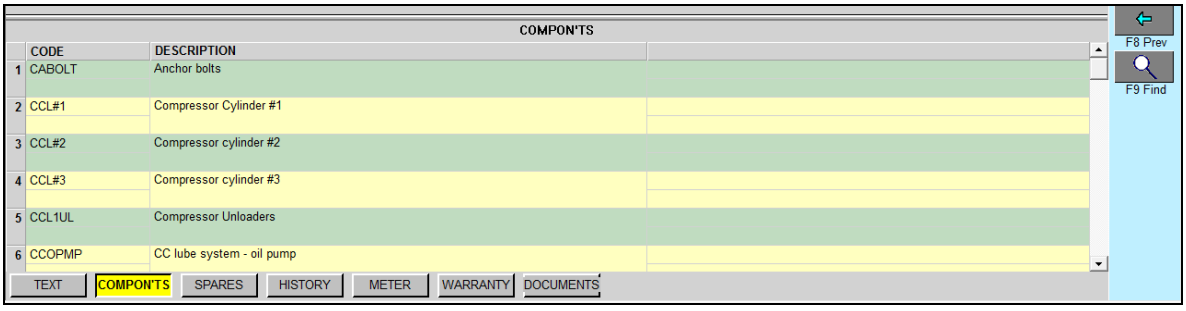
Click the **TEXT** button at the bottom of the screen to display the Text window for the equipment. Type some text directly into the window area.

In this window, you can enter up to one and a half pages of text pertaining to the equipment, such as: instructions for handling the equipment, safety instructions, or descriptions of major components.



Components Window

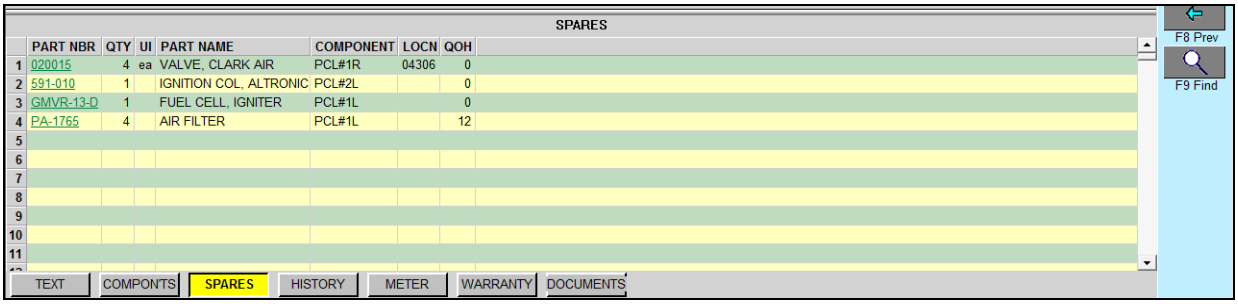
Click the **COMPON'TS** button to display the Components window for the equipment. On this window, you can track maintenance to the component level. The components you enter in this window serve as a ñvalidation fileò when you identify components for this equipment in other screens and windows.



Spares Window

Click the **SPARES** button to display the Spares window for the equipment. This window contains a list of spare parts for this equipment. This is an easy way to identify the spares needed the equipment. Each entry is selected from parts already listed in the Spares screen. If you donôt have your spares parts file loaded yet, skip this window for now. This information can be entered later when you build the Spare Parts screen.

Once you have entered spare parts and saved the screen, the Part Number appears in green. You can jump directly to the screen for a specific part by clicking the green part number on this window.

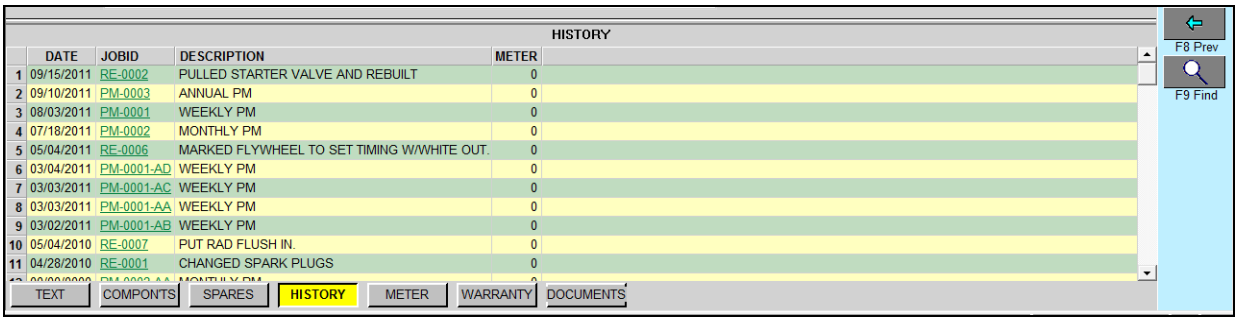


	PART NBR	QTY	UI	PART NAME	COMPONENT	LOCN	QOH
1	020015	4	ea	VALVE, CLARK AIR	PCL#1R	04306	0
2	591-010	1		IGNITION COL, ALTRONIC	PCL#2L		0
3	GMVR-13-D	1		FUEL CELL, IGNITER	PCL#1L		0
4	PA-1765	4		AIR FILTER	PCL#1L		12
5							
6							
7							
8							
9							
10							
11							

History Window

Click the **HISTORY** button to display the History window for the equipment. This window shows the 50 most recent jobs done on this equipment. This information is linked to the Service Log screen when a job for this equipment is completed.

For more detailed information about a job, you can jump directly to its Service Log screen by clicking the green job ID.

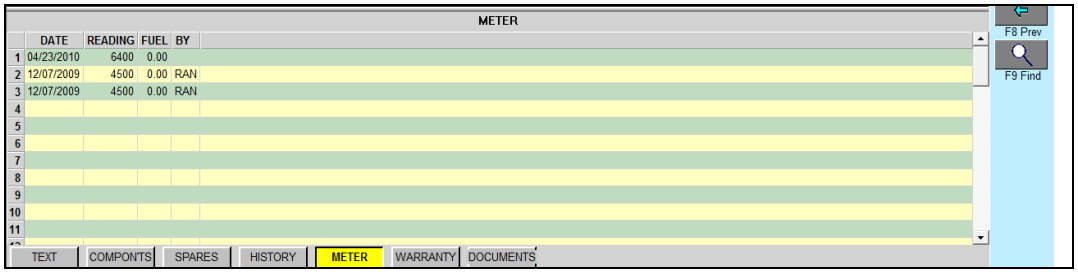


	DATE	JOBID	DESCRIPTION	METER
1	09/15/2011	RE-0002	PULLED STARTER VALVE AND REBUILT	0
2	09/10/2011	PM-0003	ANNUAL PM	0
3	08/03/2011	PM-0001	WEEKLY PM	0
4	07/18/2011	PM-0002	MONTHLY PM	0
5	05/04/2011	RE-0006	MARKED FLYWHEEL TO SET TIMING W/WHITE OUT.	0
6	03/04/2011	PM-0001-AD	WEEKLY PM	0
7	03/03/2011	PM-0001-AC	WEEKLY PM	0
8	03/03/2011	PM-0001-AA	WEEKLY PM	0
9	03/02/2011	PM-0001-AB	WEEKLY PM	0
10	05/04/2010	RE-0007	PUT RAD FLUSH IN.	0
11	04/28/2010	RE-0001	CHANGED SPARK PLUGS	0

Meter Window

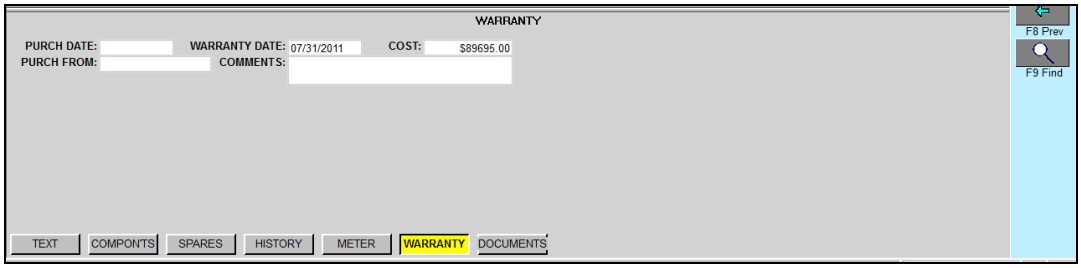
Click the **METER** button to display recent meter readings this equipment.

Displayed in this window are the equipment parameters for scheduling preventive maintenance by usage (run time) rather than by date. If you set up PMs scheduled by run time for this equipment, you will need to complete this information.



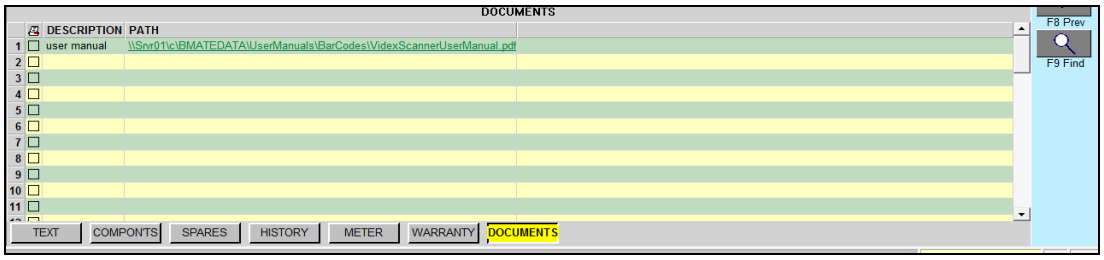
Warranty Window

Click the **WARRANTY** button to display purchase and warranty information window.



Documents Window

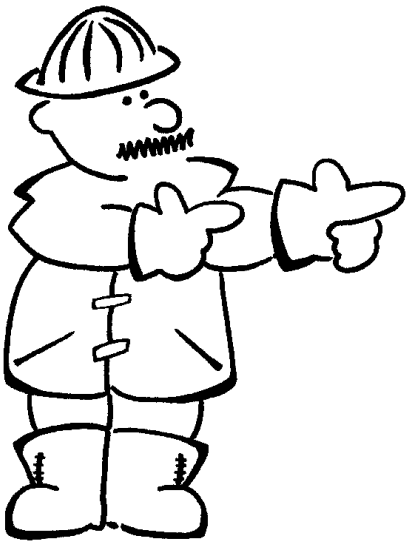
Click the **DOCUMENTS** button to display the Warranty Information window for the equipment. You can list equipment manuals, drawings, etc. for quick reference and ósingle clickô viewing.



Roadmap Checklist

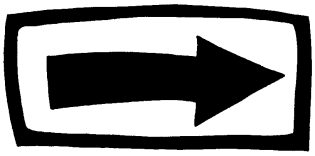
The following fields are *required*: **Equipment ID** and **Equipment Name**. These fields must be completed before you save your work in the Equipment screen. Use a simple combination of letters and numbers. Avoid including building, cost center, and other details, and you'll more easily access the information you need quickly and without confusion.

Equipment ID, **Equipment Name**, **Cost Center**, and **Building** are all *primary identification fields*. They are carried throughout Benchmate wherever a job is performed on this equipment and are part of the scheduling and history for this equipment. It is essential to complete these fields consistently as discussed in this section.



Your job: Create four screens for equipment in your plant. Be prepared with building names, cost center naming standards, and other location and manufacturer information. Go through each field and complete using the guidelines above.

Consider starting with one area of the plant and working through different buildings or cost centers. Take the time to complete each field according to plant standards.



Next stop, the Preventive Maintenance screen

Preventive Maintenance Screen

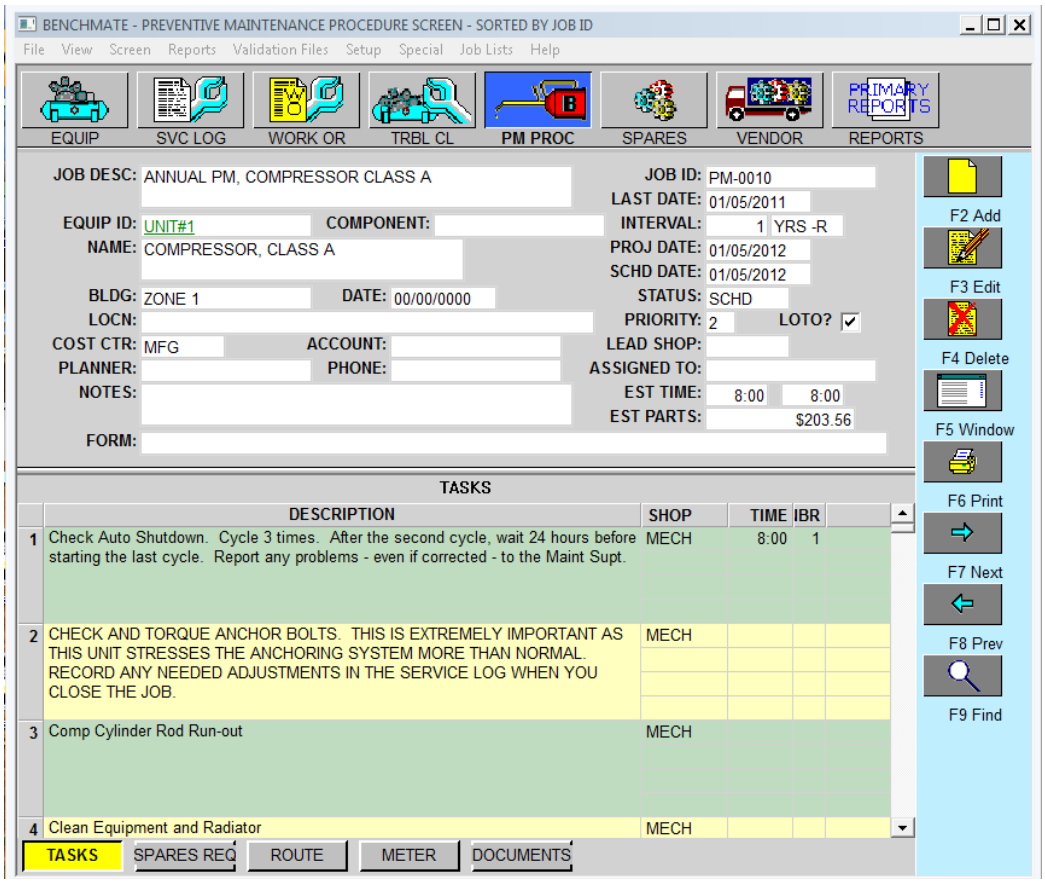
At this stop, you'll create several Preventive Maintenance procedures for your equipment.

For effective preventive maintenance, you should prepare a complete and accurate description of the regular maintenance and inspection for each equipment. Each PM screen contains a specific, permanently scheduled maintenance job for an equipment, including task steps, a parts list, and a route list. Each PM should be assigned to a shop or lead person. Each PM has its own schedule date and job interval (or frequency). More than one PM may be prepared for each equipment– but each PM has its own schedule, description, and so forth.

Objective: to create four Preventive Maintenance (PM) screens. After you complete the PMs, you will print a report listing the jobs and another printing the jobs themselves.

After this exercise you'll be ready to create preventive maintenance procedures for your plant and schedule them.

Click the **PMPROC** button to display a PM screen.



Preventive Maintenance Procedure Screen

These fields are critical to establishing a preventive maintenance procedure:

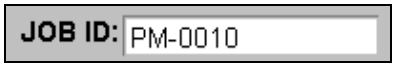
- **JOB DESCRIPTION**
- **JOB ID**
- **SCHEDULING** fields
- **JOB STATUS**
- **LEAD SHOP**
- **EQUIPMENT ID**

Click the F2 Add button to create an empty PM screen. The first field highlighted is the Job Description.

Job Description Field

The Job Description field briefly describes the job. It appears in Job Schedules and Work History reports. It should describe the scope or type of work and may also identify the name and type of equipment. Examples of good, informative job descriptions include ANNUAL OVERHAUL, UNIT #1 and MONTHLY INSPECTION GENERATOR #2.

Type a Job Description e.g.: ñANNUAL PM, é ò and press the TAB key to step to the Job ID Field. The JOB ID is a handle for Benchmate to associate other information related to the job, such as who worked on it, what parts were used, and so forth. When the job description is entered, the job ID is created by Benchmate starting with the prefix óPM-ótо identify this as a Preventive Maintenance job. The Job ID is followed by a dash and four digits to uniquely identify the job..



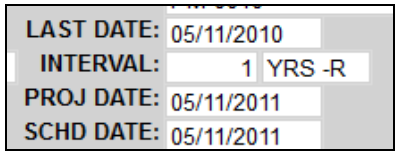
Do Not use the Job ID to enter location, building, or date information. Other fields are available for that information.

Scheduling Fields

Benchmate allows you to schedule PMs in intervals from 1 day to 99 years. You may also schedule PMs by equipment usage (for example, run hours). This is discussed in documents available through the Help menu.

Use these fields to set up a PM schedule:

- LAST DATE: base date for calculating the next date
- INTERVAL: two fields: a number and units (for example, *Days*)
- PROJ DATE: the sum of the Interval + Last Date calculated by Benchmate.
- SCHD DATE: initially the same as the Projected Date though you can change the schedule date, as circumstances dictate, when you are nearing this date.



Benchmate uses the SCHD DATE when printing job schedules. The PROJ DATE is calculated by Benchmate ð an ideal scheduled date if there were no other considerations. You can change the SCHD DATE to indicate when the job should actually be done. You may not directly change the PROJ DATEð it is changed only when the LAST DATE or INTERVAL is changed.

To see how scheduling works, enter todayôs date in the LAST DATE field; an INTERVAL of ñ1ò and interval units of ñWKS-Rò. Benchmate displays the next date in the PROJ DATE and SCHD DATE. Experiment with different LAST DATEs and INTERVAL to see how this works.

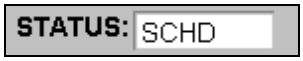
Benchmate has two methods for rescheduling preventive maintenance:

Fixed: each PM is rescheduled from the PROJ DATE. This yields a fixed schedule of ñso manyò days, weeks, months, or years. Fixed scheduling is indicated by ñ-Xò after the INTERVAL unitsð for example, ñDAYS –Xò.

Rolling: each PM is rescheduled from the date the job is completed. This yields a variable interval between jobs, depending upon how close to the original schedule that work is completed.

Status Field

The STATUS field indicates whether the job is scheduled, complete, waiting for parts, etc. Think of Status as the file (or pile) on which you place jobs or work tickets. Typically, preventive maintenance jobs are always ñSCHEDULEDò. Benchmate automatically inserts the ñSCHDò status when the PM is first created.



Assign the job a priority **(PRIORITY)** of 2.

Lead Shop Field

The LEAD SHOP field indicates the group responsible for doing the job. Another name for shop might be *craft*. You can designate jobs for contractors as well as in-house work. It is usually preferable to designate a group rather than an individual in this field. In many cases, it is impossible to schedule an individual to a specific job on a specific date. There are too many variablesð for example, unexpected repair work or absences. By designating a shop, you indicate that the shop supervisor or foreman is responsible.

Even in small maintenance departments without crafts, it is best to select ñMAINTò as the shop. If a job requires a special skill, for example, electrician (ELEC), you can select that skill.

Double-click the **LEAD SHOP** field and enter ñMECH" (Mechanical shop) from the list of valid entries.

When Benchmate is installed, the Shops validation file contains approximately ten shops. Add or

delete from this list as you choose.

Equipment ID and Component Fields

The Equip ID field identifies the equipment on which the PM is to be done. An equipment screen must be created for the equipment before you start creating the PM screen. The ID number you enter is checked against the Equipment screens you have already created. Once you have entered the equipment ID and saved the screen, the ID appears in green. You can jump directly to the screen for the equipment by clicking the green ID on this screen.

You can also select a component, to track the maintenance to the component level. The component must already be defined in the Components window for the equipment whose ID you choose.

Note that when you enter the Equipment ID, the Equipment name, Building, Location, and Cost Center fields are automatically copied from the Equipment file. They serve to describe and locate the equipment.

Double-click the EQUIP ID field and enter (or select) an equipment screen you have already created.

Notice that when you enter the equipment ID, the remaining equipment fields (for example, NAME, DESC, COST CENTER & BUILDING are copied from the Equipment screen.

Windows on the PM Screen

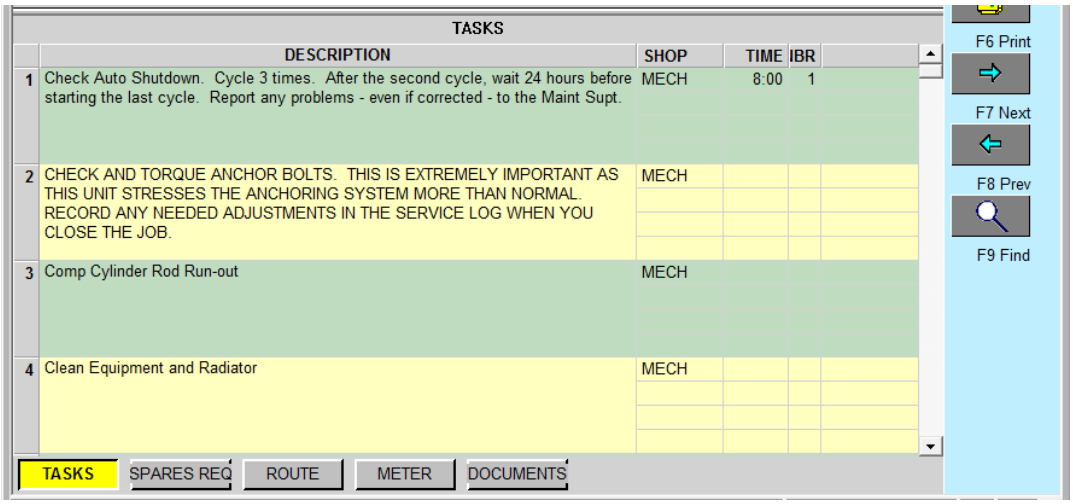
Other important information may be entered on the windows at the bottom of the PM screen:

- **Tasks**: a detailed checklist of the work to be done
- **Spares Required**: recommended parts and special tools for the job,
- **Route**: list of equipment for the job and,
- **Documents**: check lists, user manuals, etc. associated with the PM

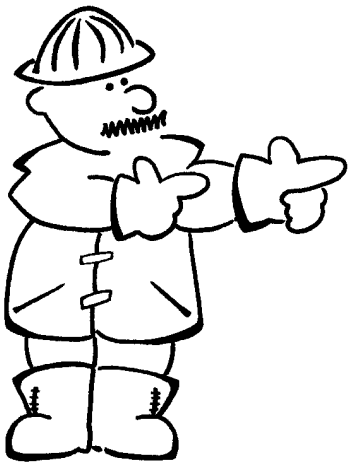
Enter several tasks in the Tasks window. You can work with the other windows after you become more familiar with Benchmate.

The Tasks window consists of up to 98 step-by-step instructions for the job. Each task has:

- A brief **description** of the task (for example, *Check the oil level*)
- The **shop** responsible (normally the lead shop but may be different for special tasks
- The number (**NBR**) of workers needed (normally, one)
- The elapsed **time** (in hours) for the task



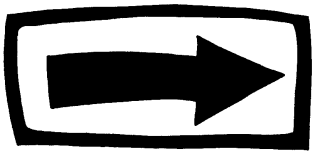
Benchmate estimates the total time for the job by adding up the time for each task. Some users prefer to enter times for each task. Others prefer to enter the job total in the first task. Either method works fine. The choice is up to you.



Quick reference. These fields are the most important in preparing a PM:

- Job Description
- Job ID
- Equipment ID
- Scheduling
- Job Status
- Lead Shop

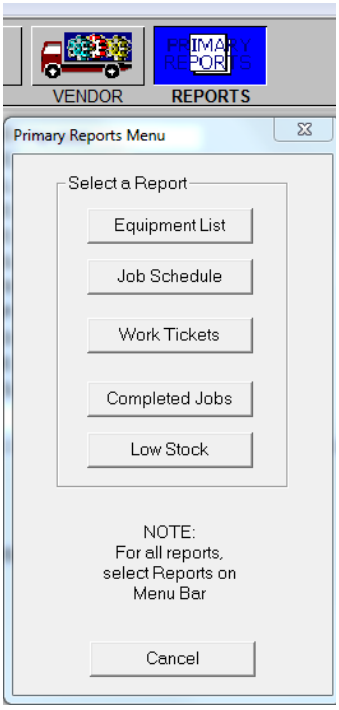
NOTE: Before starting the next chapter, create four PM procedures ï one each for four different equipment and schedule them for the current week.



Next Stop:
Reports Screen

Job Planning Reports

As you add jobs to your database, you'll want to know what maintenance is scheduled for any given day or week and to print job tickets. Benchmate provides an quick way to select the most commonly used reports through the PRIMARY REPORTS button. Click that button and select Job Schedule to display a menu for the Job Schedule report.

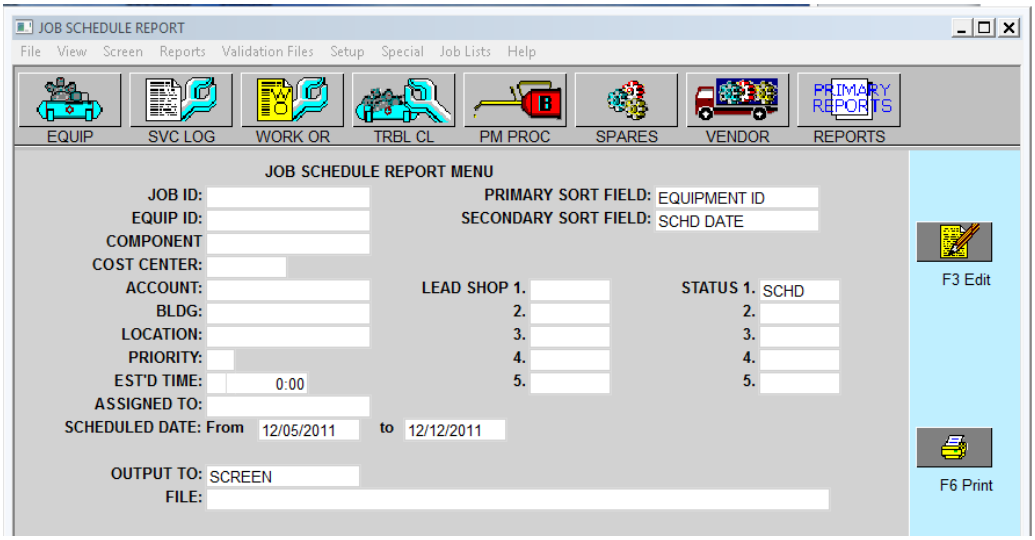


Job Schedule Report

The Job Schedule report is a list of jobs. Itôs primary purpose is to list currently scheduled jobs as well as jobs previously scheduled but not completed. This section leads you through viewing and printing a preventive maintenance job schedule.

Use the JOB SCHEDULE REPORT MENU to select jobs to include on the schedule. By placing a value in a field, you are creating a ófilterô for Benchmate to select jobs. As Benchmate scans the jobs file, is will select only jobs matching the menu. Empty fields on the menu are not check. In the menu shown below, only jobs matching these criteria will be selected:

We suggest you use just a few parameters to start. The most important ones are SCHD DATE & STATUS.



The SCHD DATE (from and to) define the dates you want to include in the schedule. Only jobs having a schedule date in the *from-to* range are included in the report. To view backlogged (scheduled but not completed) as well as scheduled jobs, set the From date set to 00/00/0000, Benchmate will then select all jobs having a schedule date before the ótoô date.

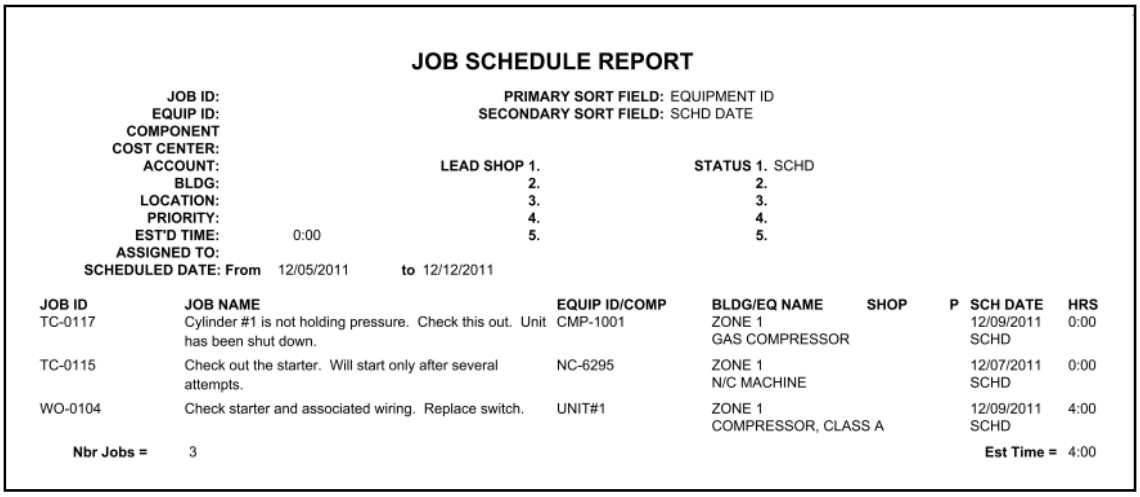
NOTE: Benchmate includes jobs that have a scheduled date equal to the From date but does not include jobs with the schedule date equal to the to date.

The STATUS field is used to select any job (including work orders and trouble calls) that has a status marked as ñSCHDò. This excludes jobs in the file that are done or not yet ready to start.

OUTPUT TO directs the report to the screen, printer or Adobe PDF file. You can preview the Job Schedule report by directing it to the screen. Then, if you want a hard copy, you can send it to the printer.

Click F3 EDIT to enter the criteria to select jobs for this report. Specify a schedule date range to include the current week. We suggest that you start with this Monday as the From date and next Monday as the to date. Next, tab to the first STATUS field, or double-click on it. Type or select ñSCHDò and tab to the OUTPUT TO field. Select ñSCREENò to preview the report before actually printing it..

Click F12 to save your report menu and then click F6 to print. A sample report is shown below. Notice the report menu is printed at the top of the report.



JOB SCHEDULE REPORT

JOB ID:
EQUIP ID:
COMPONENT
COST CENTER:
ACCOUNT:
BLDG:
LOCATION:
PRIORITY:
EST'D TIME: 0:00
ASSIGNED TO:
SCHEDULED DATE: From 12/05/2011 **to** 12/12/2011

PRIMARY SORT FIELD: EQUIPMENT ID
SECONDARY SORT FIELD: SCHD DATE

LEAD SHOP 1.
2.
3.
4.
5.

STATUS 1. SCHD
2.
3.
4.
5.

JOB ID	JOB NAME	EQUIP ID/COMP	BLDG/EQ NAME	SHOP	P	SCH DATE	HRS
TC-0117	Cylinder #1 is not holding pressure. Check this out. Unit has been shut down.	CMP-1001	ZONE 1 GAS COMPRESSOR			12/09/2011 SCHD	0:00
TC-0115	Check out the starter. Will start only after several attempts.	NC-6295	ZONE 1 N/C MACHINE			12/07/2011 SCHD	0:00
WO-0104	Check starter and associated wiring. Replace switch.	UNIT#1	ZONE 1 COMPRESSOR, CLASS A			12/09/2011 SCHD	4:00

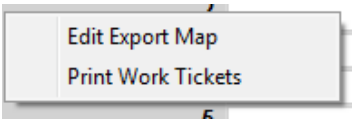
Nbr Jobs = 3 **Est Time =** 4:00

Job Schedule Report

The screen should include the four PMs you have just created. If they do, go ahead and print the schedule. If not, return to the Job Schedule Report Menu. Verify that the menu specifies the proper date range and status. Then check the PMs you have just created to make any changes to the SCHD DATE and STATUS so they meet the criteria on the report menu.

Work Tickets

After youôve reviewed the Job Schedule Report, you can print the work tickets for these jobs by either:

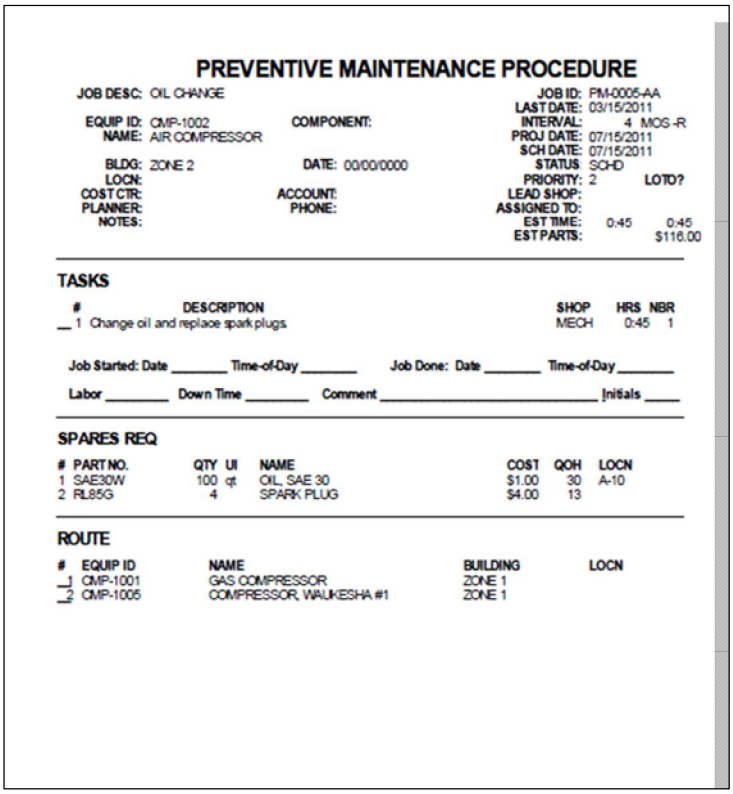


- Right-click anywhere on the Job Schedule menu to display a popup menu and select Print Work Tickets. This displays a Work Ticket report menu with entries matching those in the Job Schedule report.
- Click the PRIMARY REPORTS button and select Work Tickets.

The Work Tickets Report contains the same selection fields and sort fields as the Job Schedule Report.

If this menu does not match the Job Schedule menu, make the necessary changes, save (for future use) and press F6 to print. The jobs listed on the Job Schedule are printed.

Each Work Ticket is identical to is corresponding PM, Trouble Call or Work Order Screen. Use the space at the end of the report for comments and sign-off by the person assigned to the job. Also include actual labor hours.



PREVENTIVE MAINTENANCE PROCEDURE

JOB DESC: OIL CHANGE
JOB ID: PM-0005-AA
LAST DATE: 03/15/2011
EQUIP ID: CMP-1002 COMPONENT:
NAME: AIR COMPRESSOR
INTERVAL: 4 MOS-R
PROJ DATE: 07/15/2011
SCH DATE: 07/15/2011
BLDG: ZONE 2 DATE: 00/00/0000
STATUS: SCHD
LOCN:
PRIORITY: 2 LOTO?
COST CTR: ACCOUNT:
PLANNER: PHONE:
LEAD SHOP:
NOTES:
ASSIGNED TO:
EST TIME: 0:45 0:45
EST PARTS: $116.00

TASKS

#	DESCRIPTION	SHOP	HRS	NBR
__ 1	Change oil and replace spark plugs	MECH	0:45	1

Job Started: Date _____ Time-of-Day _____ Job Done: Date _____ Time-of-Day _____
Labor _____ Down Time _____ Comment _____ Initials ____

SPARES REQ

#	PART NO.	QTY	UI	NAME	COST	QOH	LOCN
1	SAE30W	100	qt	OIL, SAE 30	$1.00	30	A-10
2	RL85G	4		SPARK PLUG	$4.00	13	

ROUTE

#	EQUIP ID	NAME	BUILDING	LOCN
__1	CMP-1001	GAS COMPRESSOR	ZONE 1	
__2	CMP-1005	COMPRESSOR, WAUKESHA #1	ZONE 1	

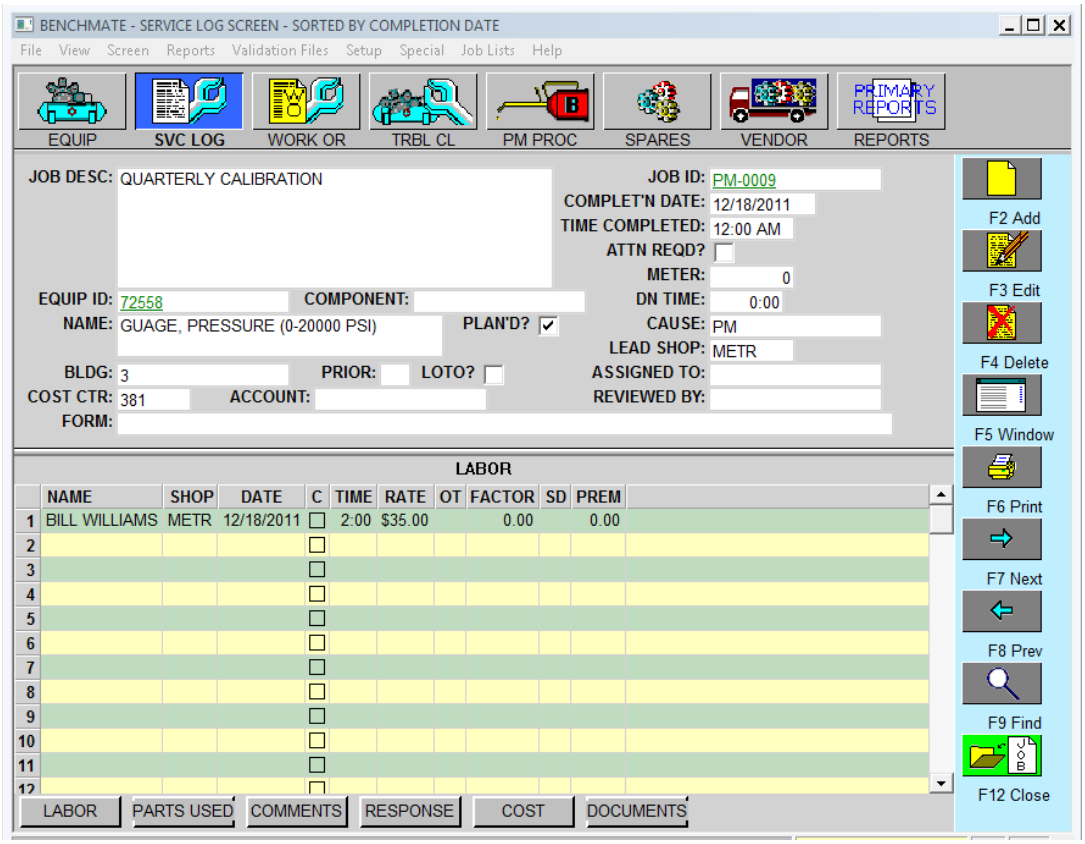
Printed Work Ticket

Next Stop:
Service Log

The Service Log

When a job is complete, the next stop is the Service Log where all completed work is recorded. When you complete the Service Log for a preventive maintenance job, that PM is automatically rescheduled in the PM Procedure screen.

All entries made in the Service Log become part of the history for the associated equipment.



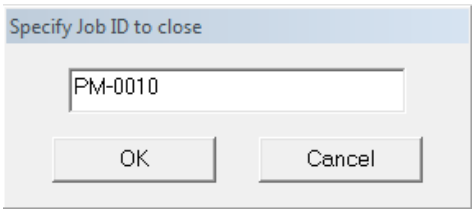
Service Log Screen

The following areas are significant in the Service Log screen:

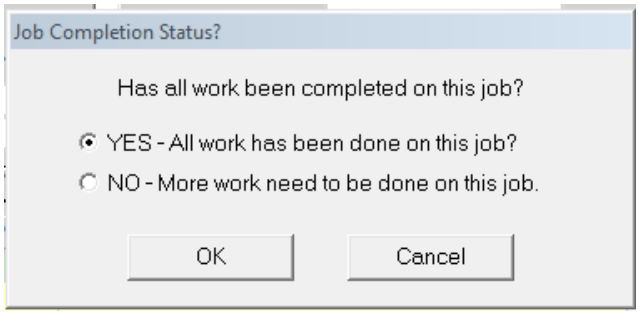
- COMPLET'N DATE - signifies that the job is complete and indicates when it was completed. If the completion date is not filled in, Benchmate will not reschedule a PM or close out a Trouble Call or Work Order.
- ATTN REQD? - signifies that this equipment or job requires further attentionð even though the work described in the work ticket has been done.
- CAUSE - indicates the basic reason (also known as *root cause*) for the job. For PMs, the reason is *PM*. For work orders and trouble calls, the cause might include *bearing failure*, *broken belt*, and so forth. Benchmate is shipped with several typical cause codes. You can modify this list as circumstance dictates.
- LABOR window lists the people working on the job, the date(s), and time worked.
- PARTS USED window lists the parts used on the job.
- COMMENTS window describes problems with the job or equipment. If ATTN REQD? is checked, this window should describe the problem and/or remedial repairs needed.
- COST window holds the cost of labor, parts and the total job. It is calculated from data in the Labor and Parts Used windows.

At this stop weðll close the preventive maintenance job we just worked on.

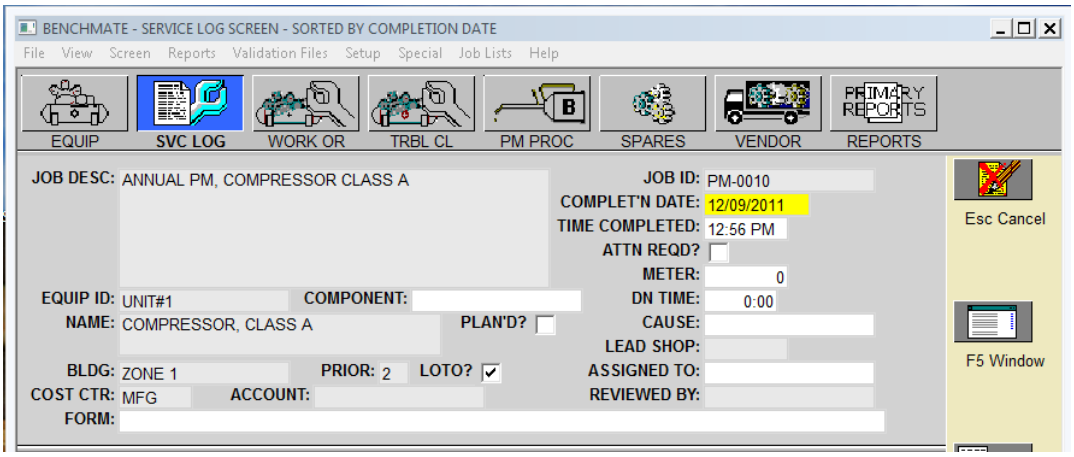
Begin by clicking SVC LOG button. Then click F12 CLOSE. In the dialog presented, enter the JOB ID of one of the PMs you printed in Section 4. Then click OK.



Benchmate creates a Service Log with data from the associated PM, Trouble Call or Work Order and asks if the job is done. If not, e.g.: recording initial activity at the end of the day, check NO. Otherwise click OK and complete the Service Log entries.



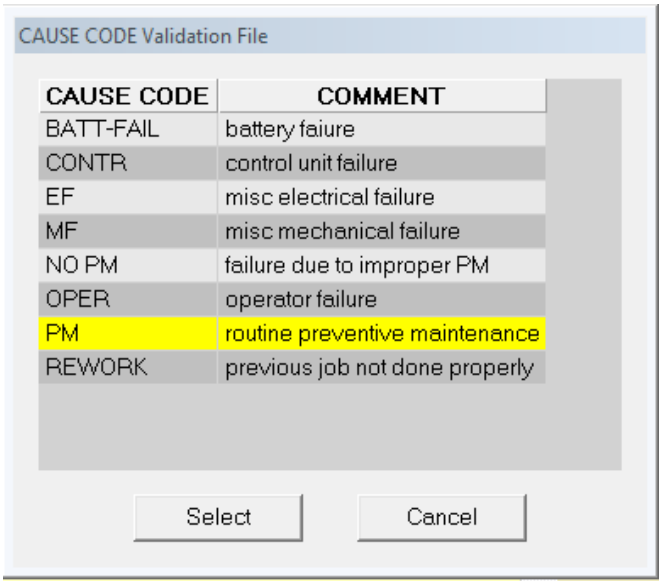
Verify and modify as necessary the COMPLET'N DATE ï Benchmate **permits this only if the job is complete** and has not been saved previously. The completion date is used to reschedule PMs or when closing Work Orders or Trouble Calls.



Then verify and modify as necessary the TIME COMPLETED. Edit the ATTN REQD?, METER and DOWN TIME fields as needed. The ATTN REQD? field should be used to **identify follow up activity** ï usually due to equipment condition or unusual activity on the job.

Tab down to the ATTN REQD? field and ódouble clickô mark or clear the checkbox.

The CAUSE field should be used to identify the reason for doing this job ï e.g.: PM for preventive maintenance. This is a validated field ï you must choose one of the cause codes in the validation file. You are encouraged to create your own list. These codes are invaluable for identify significant problems that would otherwise not be noticed and for identifying why some equipment may need an unusual amount of maintenance activity and resources.

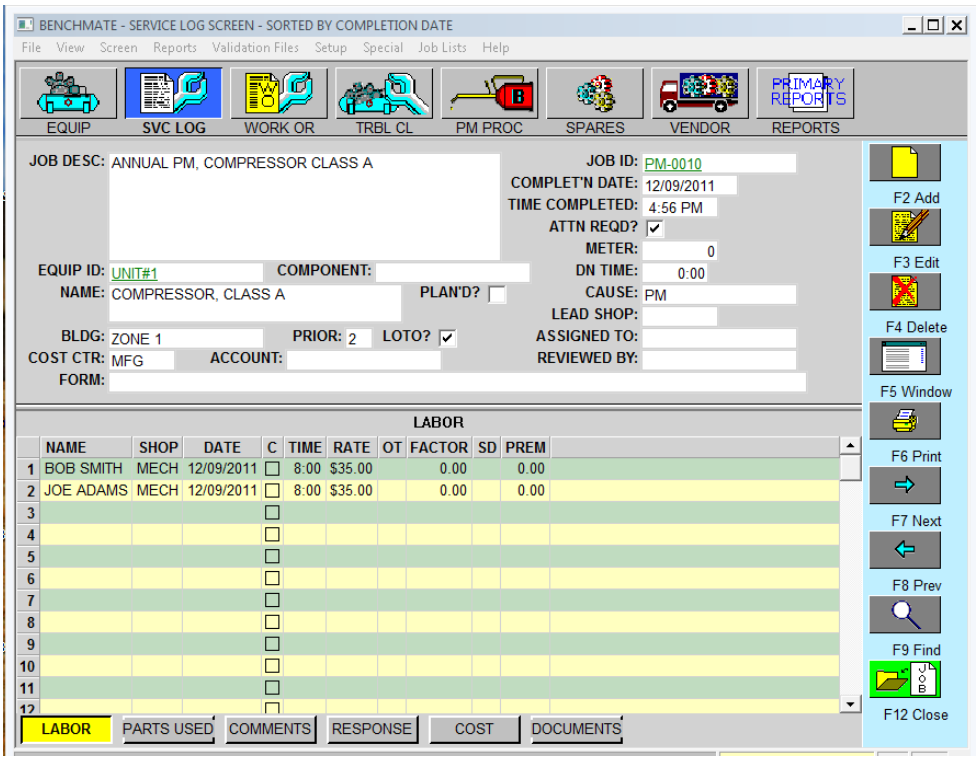


Tab forward to the LABOR window to enter who worked on the job, when, and for how long.

NOTE: Skip the PARTS USED window for now because you have not entered data in the Spares file**.**

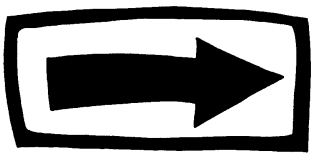
You can click the COMMENTS button, and enter comments in the Comments window.

Then click F12 to save the new Service Log screen.



Completed Service Log

Print a Job Schedule report again using the same parameters you did in the Preventive Maintenance section (Section 4). The job you just closed should not be in the report, since it has been rescheduled. The status is still ñSCHDò since PMs are always scheduled.

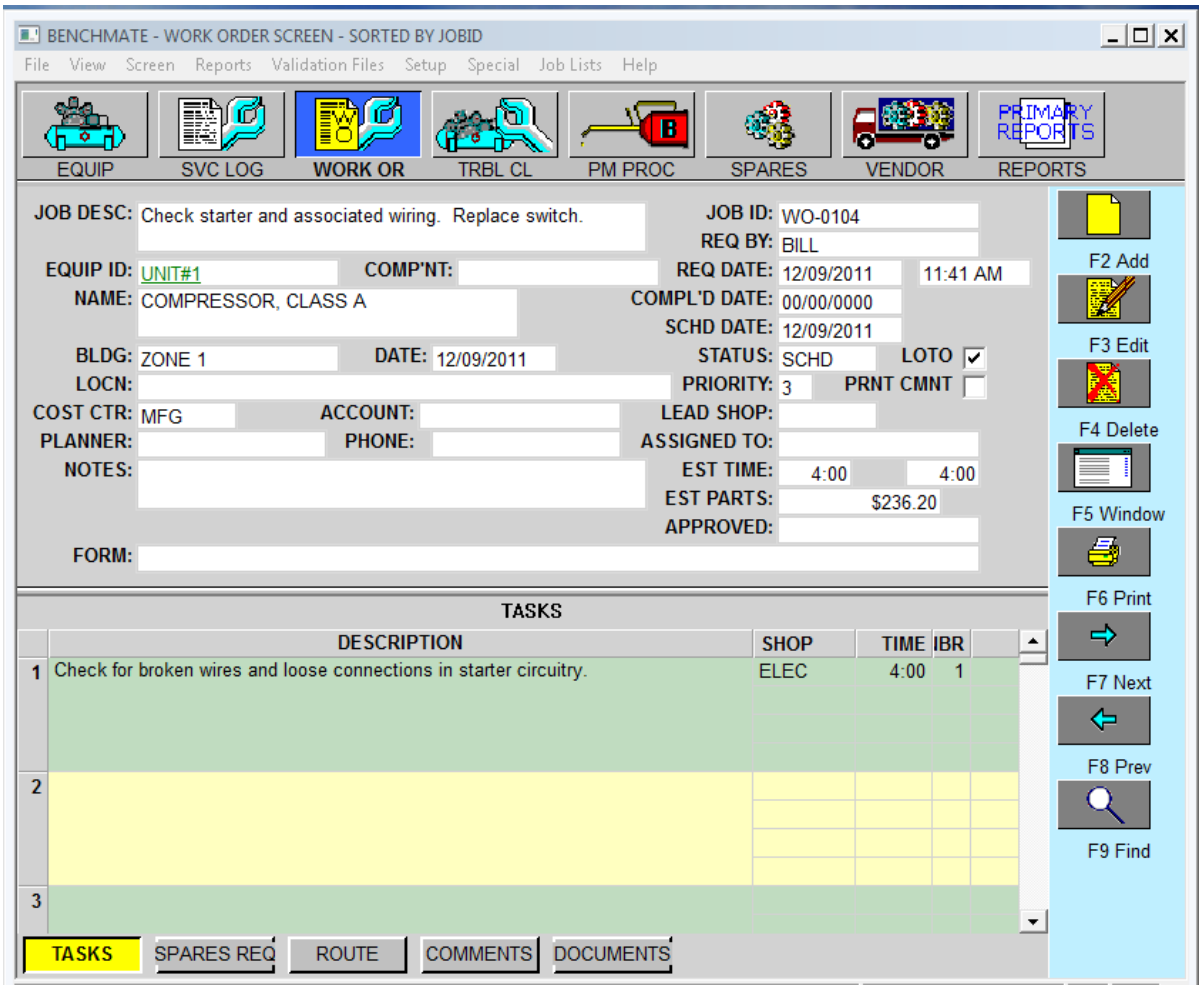


Next Stop:
Work Orders

Work Orders

Work Orders are one-time jobs that typically can be planned in advance by maintenance or engineering and may include repairs, upgrades, replacements, and projects such as installing or moving equipment. Each job may involve many tasks and more than one shop.

Click the WORK OR button to display a Work Order screen.



Work Order Screen

The important parts of this screen are:

- JOB DESC - a brief summary of the job
- JOB ID - handle by which Benchmate identifies the job and ties related activities (labor, parts used, comments, etc.) to it
- EQUIP ID - identifies the equipment (same as PM screen)
- SCHD DATE - date job is to be done
- STATUS - indicates if the job is ready to be done (SCHD) or waiting for parts, waiting for approval, etc.
- LEAD SHOP - indicates who is responsible for the job
- TASKS – check list or brief description of tasks for this job and estimated time

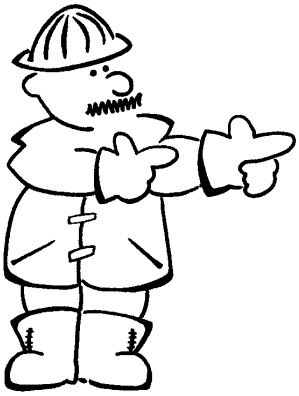
To create a work order, click the F2 Add button.

First enter a brief Description for this job. Benchmate automatically creates the JOB ID with the prefix ñWOò followed by a sequence number — similar to the Job ID of a PM Procedure.

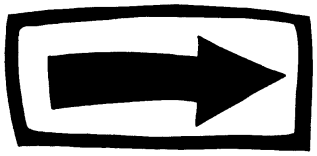
Enter the date you want to do the job in SCHD DATE. This is needed to schedule the job and to identify ópast dueô jobs. Benchmate automatically enters ñSCHDò in the Status field to indicate the job is to be performed on the Schedule Date. Benchmate changes the Status to ñDONEò when the job is closed in the Service Log screen

Assign the job to a Lead Shop.

Tab to the TASKS window at the bottom of the screen and create several tasks for this time. The Tasks serve as a check list of the for this job. It is identical to the Tasks window in the PM screen. Note that you can designate a different shop for each task. This is a convenient way to identify special skills or groups needed to support the job.



Your job: Complete additional Work Order screens using various equipment and job descriptions. Schedule all the jobs for the current week. Complete several tasks including an estimated time for each job.

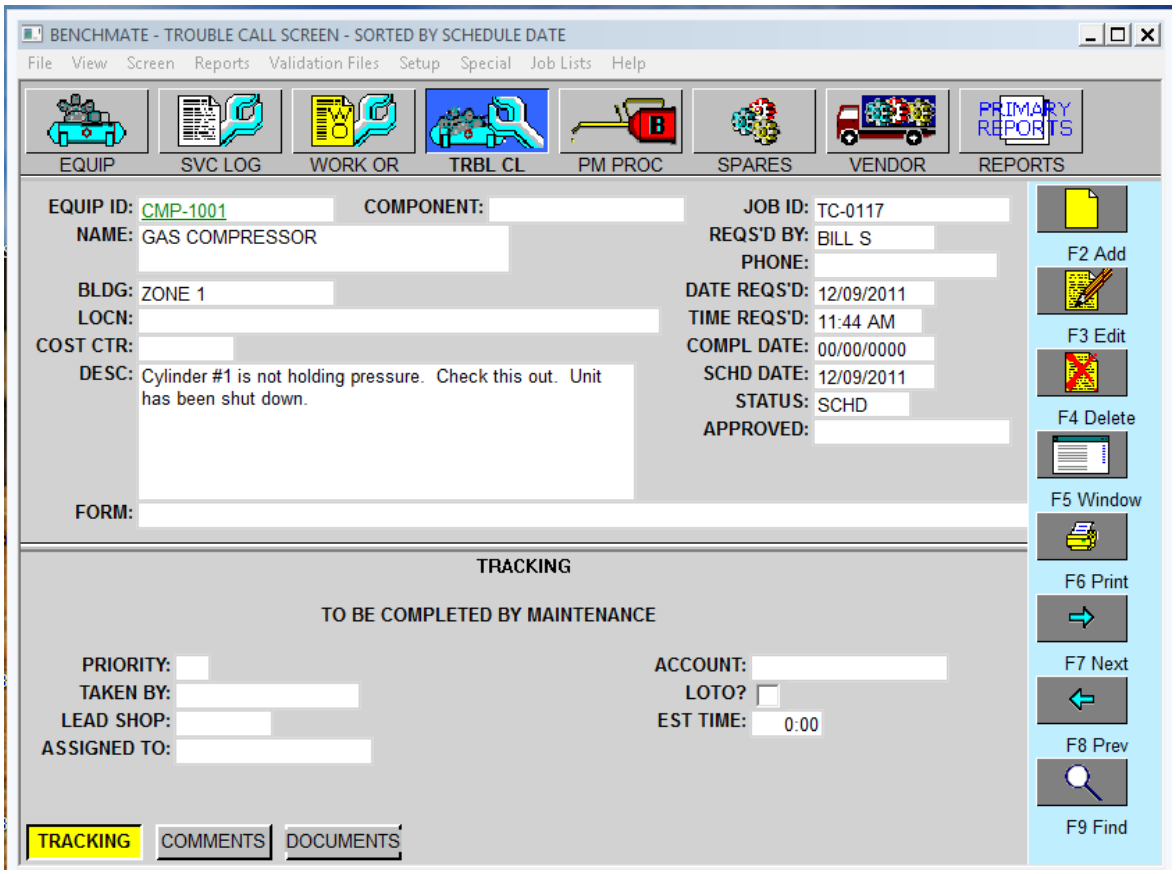


Next Stop: Trouble Calls

Trouble Calls Screen

Use the Trouble Call for maintenance requests. Itôs convenient for production supervisors, plant operators, engineers & managers to enter and track maintenance requests. The Trouble Call is a simplified Work Order..

Click TRBL CL on the button bar to display the Trouble Call screen.



Trouble Call Screen

The most importantl fields on this screen are:

- EQUIP ID - identifies the equipment needing maintenance.
- REQS'D BY - identifies the person requesting the service (important in case of questions)
- DESC - describes the problem or maintenance service needed. This field accommodates four lines @ 60 chars. The COMMENTS window is available if more space is needed or you can attach a document using the FORM field.

Click F2 Add to open a new Trouble Call. The EQUIP ID field is the first field highlighted. Enter and validate an Equipment ID that you created in the Equipment screen.

After you have entered an EQUIP ID, Benchmate fills in the following fields:

- JOB ID ï the prefix TC followed by a unique number.
- DATE REQS'D ï date the Trouble Call was created. It canôt be changed.
- TIME REQS'D ï time-of-day the Trouble Call was created. It canôt be changed.
- SCHD DATE ï the date the Trouble Call was created is entered. It can be changed to the date service is desired or when the service will be performed.
- STATUS – REQ is entered to identify new requests than have not been scheduled and assigned..

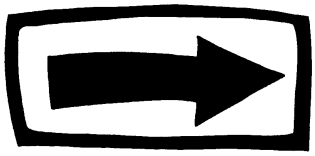
Enter your name in REQ BY. This field not only identifies the requestor but can be used to check the status of jobs you have requested. Enter your name in a consistent manner. A common convention is to use the first five characters of your last name followed by your first and middle initials, for a total of seven characters.

Next, write a brief description of the problem in the DESC field and click F12 to save.

The remainder is typically completed by Maintenance when the job is scheduled and assigned. (It may also be completed by the requestor if the Trouble Call is immediately given to a maintenance technician to perform the work.) To schedule a Trouble Call, click F3 Edit and:

- Enter a LEAD SHOP and SCHD DATE,
- Assign the job to maintenance technician ï ASSIGNED TO ï if desired at this time.
- Add any additional instructions or comments in the COMMENTS window,
- Change STATUS to SCHD .

You can enter an account number and estimated job time, though these fields are not required.



Next Stop:
Closing Work Orders and Trouble Calls

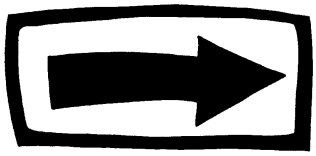
Closing Work Orders and Trouble Calls

Completed Work Orders and Trouble Calls are closed in the Service Logð using the same steps as you used for closing PMs. The only difference is that for Work Orders and Trouble Calls the job status is changed to ñDONEò so that the job will not be scheduled again.

If you need a refresher on closing jobs, review ñSection 5: The Service Log.ò After you've reviewed this section, go ahead and close out the Work Orders and Trouble Calls you created and printed in Sections 5 and 6.

Then view the changes on the corresponding Work Order and Trouble Call screens. Youõll see COMPLETED DATE has been copied from the Service Log and the STATUS changed to DONE.

After youôve closed the open Work Orders and Trouble Calls that you have created, go to the next section to view and print reports of your completed jobs.



Next Stop: Cost Summary, Cause Code, Completed Jobs, & Maintenance History Reports

Cost Summary, Cause Code, Completed Jobs, and Maintenance History Reports

These reports summarize completed maintenance work. You can run them as needed for all equipment, for a group of equipment, or for one equipment.

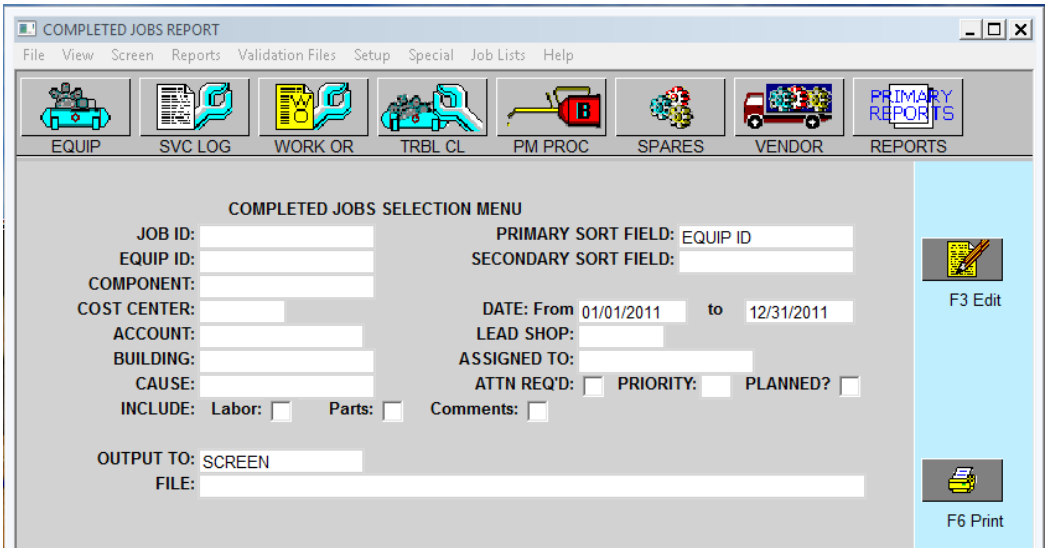
In this section you'll create three important reports:

- Completed Jobs – basically a list of completed jobs
- Cost Summary – shows maintenance time and costs by equipment, cost center, building or account and
- Cause Code – shows maintenance time and costs by cause code.

Completed Jobs

This report lists completed jobs - usually for a specified period or a particular equipment. It is an excellent activity report showing the actual and estimated time worked, the equipment and a brief description of each job.

To begin this report, click the PRIMARY REPORTS button and select COMPLETED JOBS.

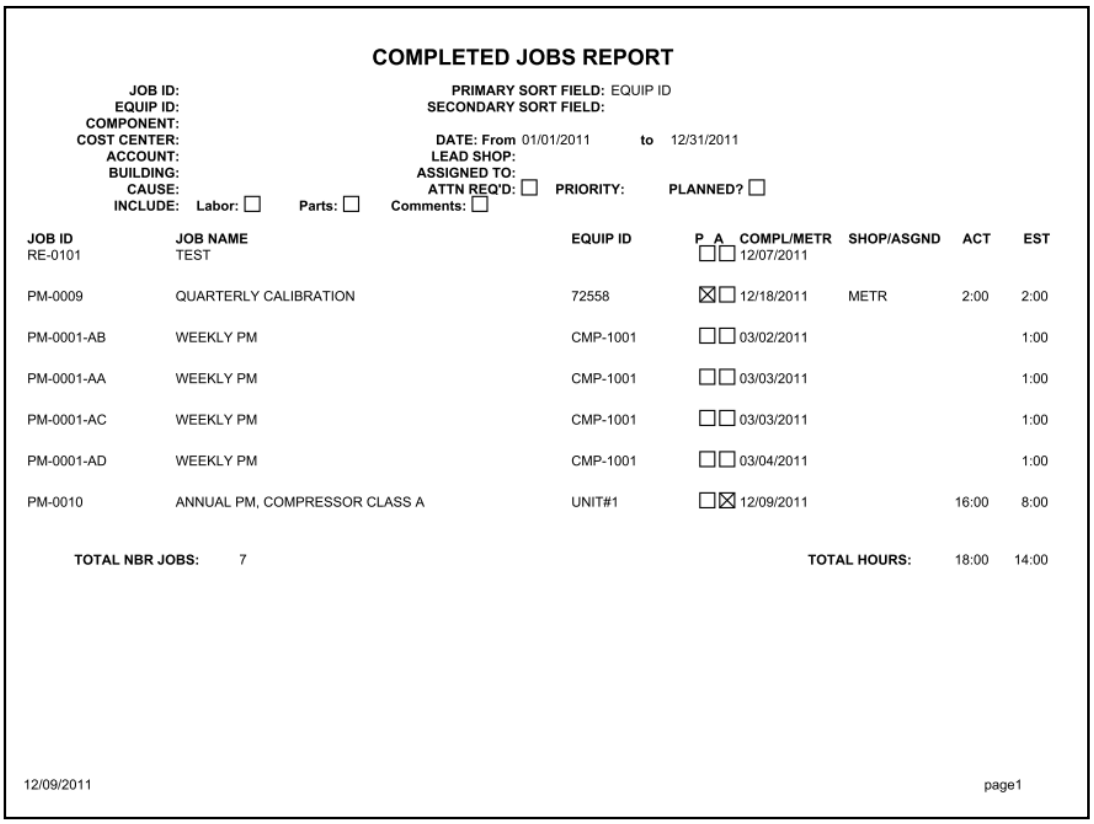


Completed Jobs Report Menu

When the report menu appears, click F3 Edit and

- Enter EQUIP ID in the Primary Sort Field
- Enter the first and last date of the current month (assuming you closed "your" jobs during that period and,
- Select Output to SCREEN.

Click F12 to Save and then F6 to Print.



COMPLETED JOBS REPORT

JOB ID:
EQUIP ID:
COMPONENT:
COST CENTER:
ACCOUNT:
BUILDING:
CAUSE:
INCLUDE: Labor: ☐ Parts: ☐ Comments: ☐

PRIMARY SORT FIELD: EQUIP ID
SECONDARY SORT FIELD:

DATE: From 01/01/2011 to 12/31/2011
LEAD SHOP:
ASSIGNED TO:
ATTN REQ'D: ☐ PRIORITY: PLANNED? ☐

JOB ID	JOB NAME	EQUIP ID	P	A	COMPL/METR	SHOP/ASGND	ACT	EST
RE-0101	TEST		☐	☐	12/07/2011			
PM-0009	QUARTERLY CALIBRATION	72558	☒	☐	12/18/2011	METR	2:00	2:00
PM-0001-AB	WEEKLY PM	CMP-1001	☐	☐	03/02/2011			1:00
PM-0001-AA	WEEKLY PM	CMP-1001	☐	☐	03/03/2011			1:00
PM-0001-AC	WEEKLY PM	CMP-1001	☐	☐	03/03/2011			1:00
PM-0001-AD	WEEKLY PM	CMP-1001	☐	☐	03/04/2011			1:00
PM-0010	ANNUAL PM, COMPRESSOR CLASS A	UNIT#1	☐	☒	12/09/2011		16:00	8:00

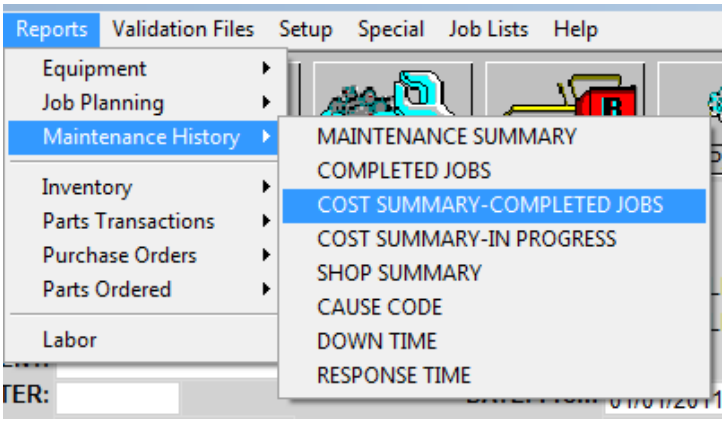
TOTAL NBR JOBS: 7 TOTAL HOURS: 18:00 14:00

12/09/2011 page1

Completed Jobs Report

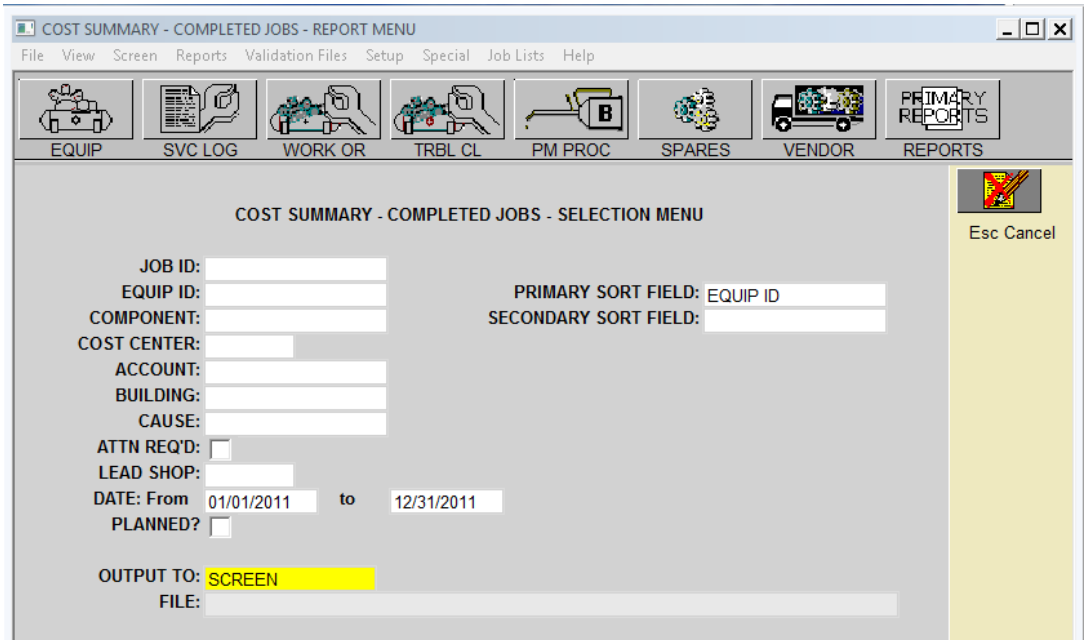
Cost Summary Report

This report shows the labor and parts costs for each job. Often it is sorted by Equipment to view maintenance costs for each equipment. To begin this report, select Reports Ÿ Maintenance History Ÿ COST SUMMARY – COMPLETED JOBS.



Click F3 Edit and

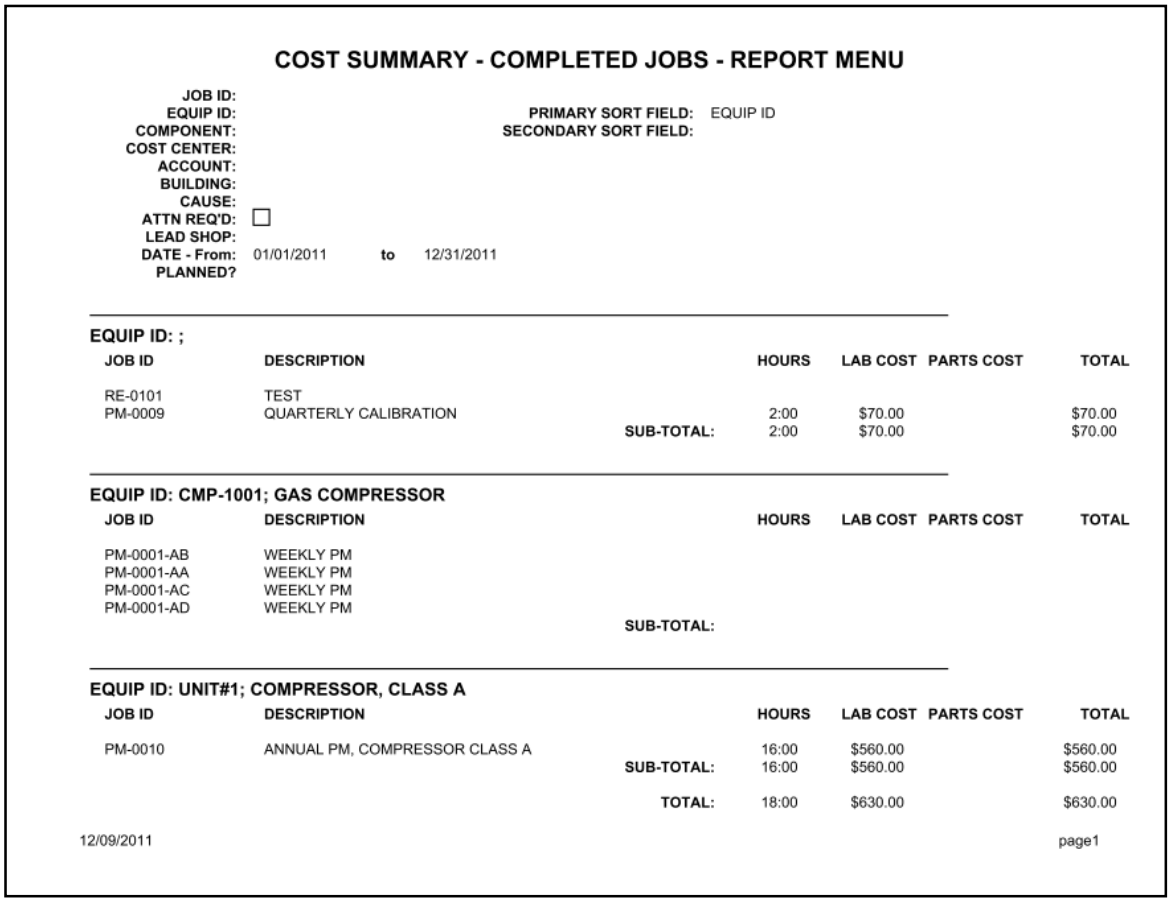
- Enter EQUIP ID in the Primary Sort Field,
- The first and last dates of the current year (assuming you closed your jobs in that time frame) and,
- Set Output to SCREEN.



Cost Summary - Completed Jobs 1Cost

Click F12 to save and F6 to print.

Note that this report shows the total maintenance cost for each equipment as well as the total for all equipment serviced during this period.



COST SUMMARY - COMPLETED JOBS - REPORT MENU

JOB ID:
EQUIP ID:
COMPONENT:
COST CENTER:
ACCOUNT:
BUILDING:
CAUSE:
ATTN REQ'D: ☐
LEAD SHOP:
DATE - From: 01/01/2011 to 12/31/2011
PLANNED?

PRIMARY SORT FIELD: EQUIP ID
SECONDARY SORT FIELD:

EQUIP ID: ;

JOB ID	DESCRIPTION		HOURS	LAB COST	PARTS COST	TOTAL
RE-0101	TEST					
PM-0009	QUARTERLY CALIBRATION		2:00	$70.00		$70.00
		SUB-TOTAL:	2:00	$70.00		$70.00

EQUIP ID: CMP-1001; GAS COMPRESSOR

JOB ID	DESCRIPTION		HOURS	LAB COST	PARTS COST	TOTAL
PM-0001-AB	WEEKLY PM					
PM-0001-AA	WEEKLY PM					
PM-0001-AC	WEEKLY PM					
PM-0001-AD	WEEKLY PM					
		SUB-TOTAL:				

EQUIP ID: UNIT#1; COMPRESSOR, CLASS A

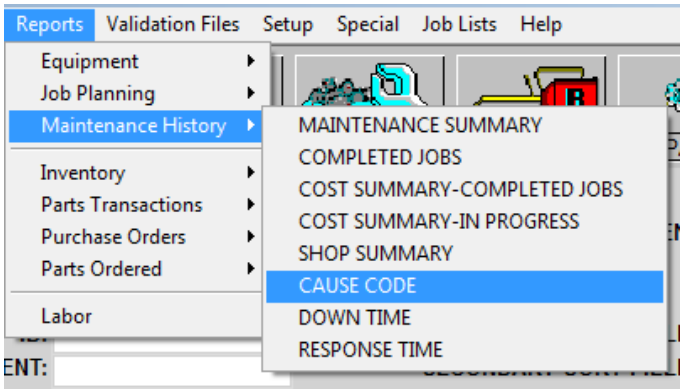
JOB ID	DESCRIPTION		HOURS	LAB COST	PARTS COST	TOTAL
PM-0010	ANNUAL PM, COMPRESSOR CLASS A		16:00	$560.00		$560.00
		SUB-TOTAL:	16:00	$560.00		$560.00
		TOTAL:	18:00	$630.00		$630.00

12/09/2011 page1

Cost Summary Completed Jobs Report

Cause Code Report

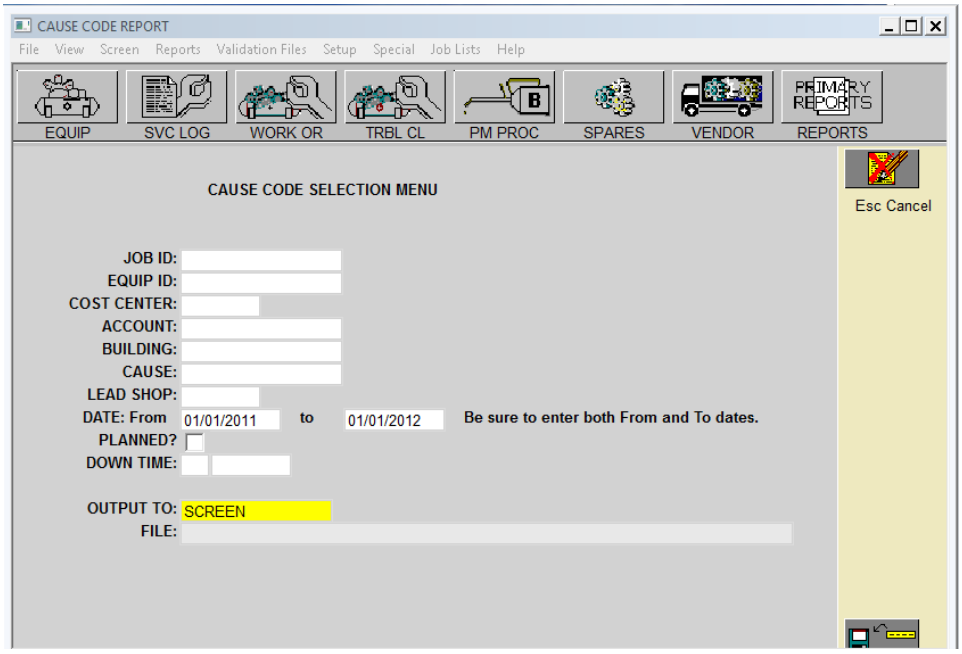
This report shows the total maintenance costs for each Cause Code recorded in the Service Log. It is very good way to identify your major problems. Once they have been identified, you can go to work correcting the situation. For example, if ôBROKEN BELTô is your biggest problem, you might want to change you supplier or decrease the PM interval so worn belts are discovered and replaced before an emergency. To begin this report, select Reports Ÿ Maintenance History Ÿ CAUSE CODE.



Cause Code Report Menu

Click F3 Edit and

- Enter the first and last date of the current year (assuming the jobs you closed were closed during that time frame) and
- Select output to SCREEN



Click F12 to save and F6 to print.

CAUSE CODE REPORT

JOB ID:
EQUIP ID:
COST CENTER:
ACCOUNT:
BUILDING:
CAUSE:
LEAD SHOP:
DATE - From: 01/01/2011 **to** 01/01/2012
PLANNED?
DOWN TIME:

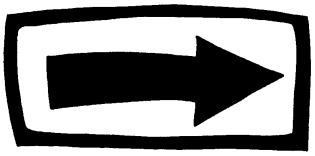
CAUSE CODE: No Cause Code Recorded

EQUIP ID	DATE	JOB ID	LABOR HRS	COST	DOWN
	12/07/2011	RE-0101			
CMP-1001	03/03/2011	PM-0001-AA			
CMP-1001	03/02/2011	PM-0001-AB			
CMP-1001	03/03/2011	PM-0001-AC			
CMP-1001	03/04/2011	PM-0001-AD			
SUB-TOTAL:					

CAUSE CODE: PM - routine preventive maintenance

EQUIP ID	DATE	JOB ID	LABOR HRS	COST	DOWN
72558	12/18/2011	PM-0009	2:00	$70.00	
UNIT#1	12/09/2011	PM-0010	16:00	$560.00	
SUB-TOTAL:			18:00	$630.00	
TOTAL:			18:00	$630.00	

Cause Code Report



Last stop - Learn how to organize your inventory data.

Discover how equipment and spare parts are related

Learn how to have critical parts on hand when needed.

The Spare Parts Screen

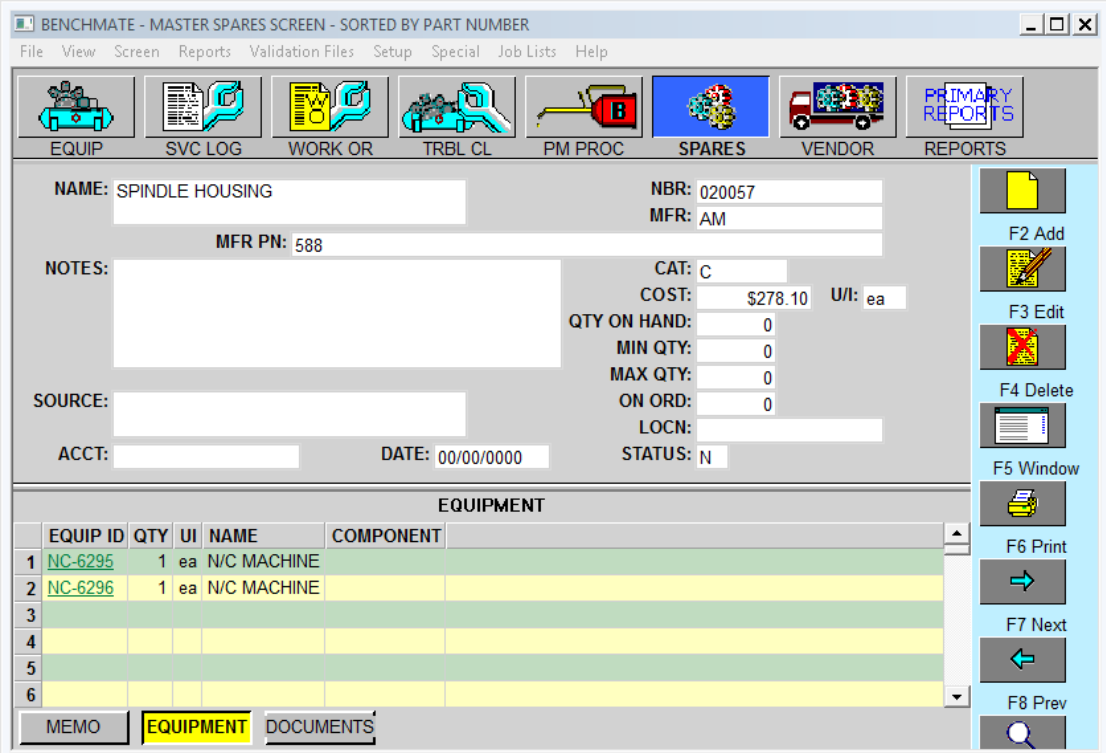
Inventory

The Spare Parts screen identifies the parts you use, where to get them, how much they cost, and what equipment they are used on. When you have finished entering your inventory, you will also have a list of spare parts for each equipment — making it easy to identify a needed part.

This screen can also help you control inventory by reducing parts duplication, identifying obsolete parts and ensuring the availability of critical parts

Spare Parts Screen

Every part that you want to track must be recorded in the Spares screen. To start, click the SPARES button



Spare Parts Screen

The two fields at the top of the screen - part name (**NAME**) and part number (**NBR**) - are required. The NAME field describes the part and NBR is the part number ï usually the primary vendorôs.

To start, click F2 Add and enter the part name. The NAME should be short and easily recognized part description. You can copy this description from the catalog, the associated equipment manual, or the part label. Because this is often the primary means of identifying a part, use the part's general name first. For example, *bearing*, *filter* or *belt*, followed by unique characteristics of the part. You could have part names such as:

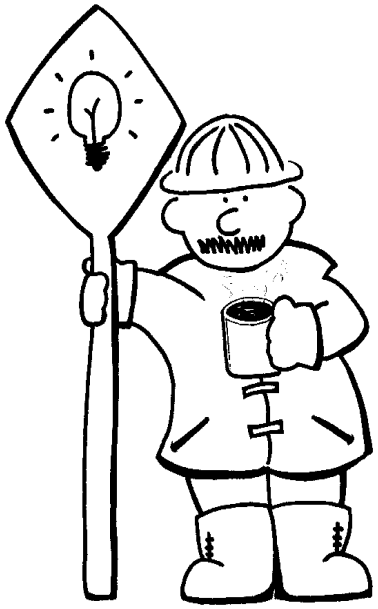
- BEARING, ROLLER, 1" ID X 3" OD
- AIR FILTER, 16 X 20 X 2
- AIR FILTER FOR COMPRESSORS

The NBR field uniquely identifies the part. Benchmate uses it to link the Spares screen with parts used . You should use the manufacturerôs or primary vendorôs part number when possible to help when ordering the part. Many parts (such as bearings and belts) are somewhat generic in that they are interchangeable between manufacturers. In these cases, use the part number of the largest manufacturer, or the manufacturer you use the most, or the primary vendorôs part number. Enter

the manufacturerôs or vendorôs name in the MFG field to help identify the source of the part number.

Enter the COST for more expensive items (e.g.: anything over $50.00) because they can significantly impact maintenance costs. There is little benefit in tracking low cost parts because they are typically a very low percentage of your maintenance costs.

If you are going to monitor the use and stocking level of a part, enter the quantity on hand (QTY ON HAND) and the minimum quantity required (MIN QTY).



TIP: Use LOCN to get a list of parts in a particular shelf, bin or cabinet.

The LOCN field identifies where the part is located. Use a **simple, consistent** structure for this field such as room-cabinet-shelf. Use the same number of characters in each ósub-fieldô so that the parts can be sorted by location. If you choose to use the room-cabinet-shelf naming system, enter the data separated by hyphens. For example, 01-A-01 might indicate room 1, cabinet A, first shelf.

The QTY ON HAND field shows the number of parts in inventory, up to 9,999. Benchmate automatically adjusts the quantity whenever the part is recorded in the Service Log. You may also change this value at any time, such as when stocking additional parts. When you create a Spares screen, enter the quantity on the shelf at the time. You can change it later.

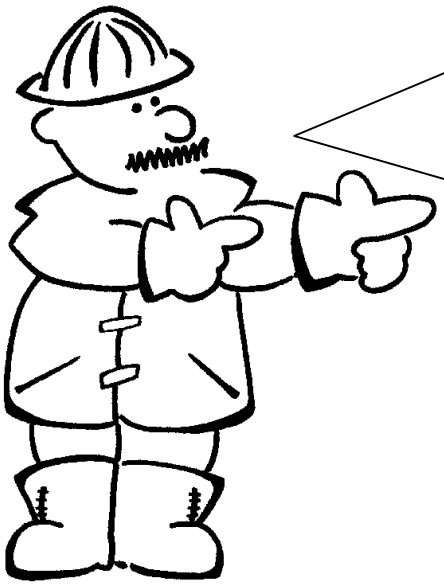
The ON ORD field shows the quantity on order. It should be updated whenever the part is ordered and when the part is received.

The MIN QTY indicates the number that is always required to be on hand. When QTY ON HAND plus ON ORD is less than MIN QTY, STATUS is set to ñLò, and the part included in the next Low Stock Report.

Click the EQUIPMENT button at the bottom of the screen to display a list of Equipment using the part. As you enter each part, complete the Equipment window for that part. This window lists the equipment on which the part is installed. When you enter an equipment in this window, the part

also appears in the Spares window on the Equipment screen to identify parts used on that equipment.

Enter a couple of EQUIP IDs in the Equipment window and click F12 to save the screen. You can quickly check the Equipment screen, Spares window to view the part you just entered by double clicking the underlined Equip ID value.

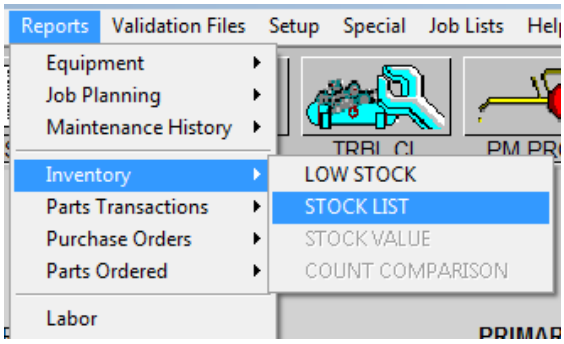


Your job: Repeat this process for four to six spare parts in your operations. Set the **QOH** (quantity on hand) and **MIN QTY** for several parts. For each part, enter one or two equipment items that each part is used on. Then check the Equipment screen for the equipment to see that the part is listed in the Spares window for the equipment.

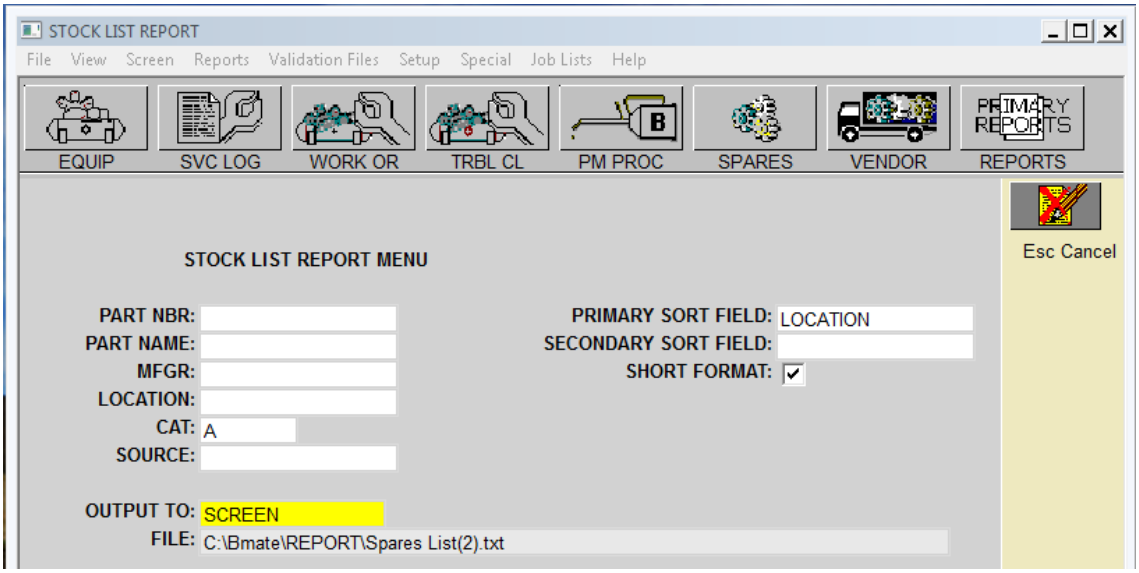
TIP: Click the **green** equipment ID in the Equipment window to jump directly to the Equipment screen for that equipment.

Stock List Report

This report lists all or a selected parts. It can be used to verify parts and qty-on-hand. You can also export the stock list to a Tab Text file for a spread sheet (e.g.: Excel).

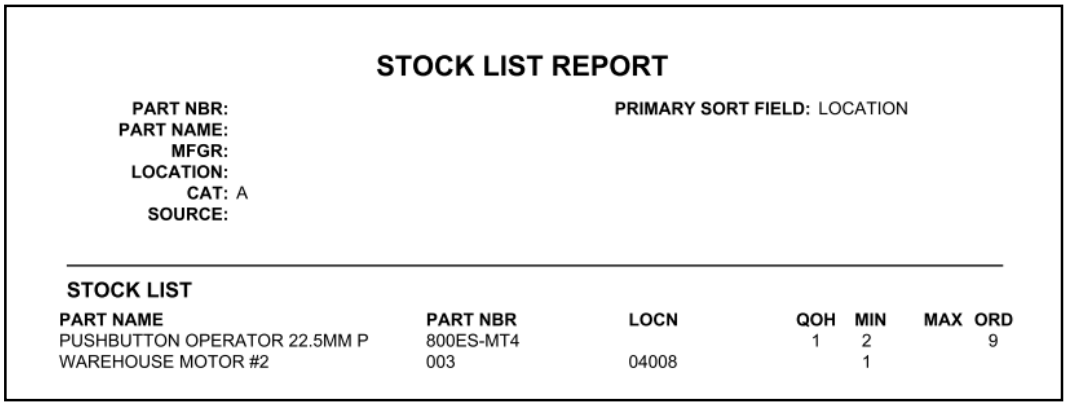


To start, select Reports Ÿ Inventory Ÿ STOCK LIST. Then click F3 to edit the report menu. This example shows how to select a parts category ï A ï sorted by LOCATION printed to the SCREEN which can then be printed.



Stock List Report Menu

When you are done with the menu, click F12 to save and F6 to print. The report printout shows the part description & number, location, quantity-on-hand, min & max quanties and quantity-on-order. You can click the **PRINTER** button at the top of the ćreportô window for a hard copy.



STOCK LIST REPORT

PART NBR:
PART NAME:
MFGR:
LOCATION:
CAT: A
SOURCE:

PRIMARY SORT FIELD: LOCATION

STOCK LIST

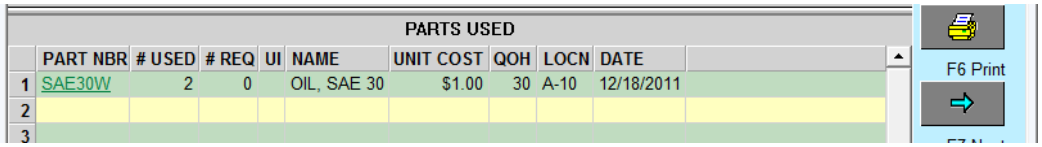
PART NAME	PART NBR	LOCN	QOH	MIN	MAX	ORD
PUSHBUTTON OPERATOR 22.5MM P	800ES-MT4		1	2		9
WAREHOUSE MOTOR #2	003	04008		1		

Tracking Parts Usage

After you have entered a number of parts, you can track parts as they are used. This is done in the PARTS USED window in the Service Log screen.

Return to the Service Log by clicking **SVC LOG** on the screens bar and locate a job you've already closed. This can be a preventive maintenance, work order, or trouble call job.

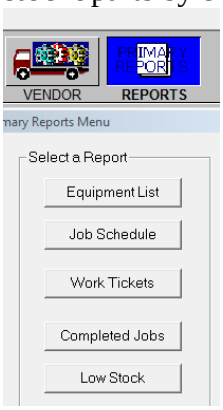
Click F12 Close ï itôs OK to ócloseô a job again ï and enter the JOB ID so you can make changes**.** (Benchmate will not let you change the Completion date.) Then click the **PARTS USED** button to open the Parts Used window. Enter one or two parts and the quantity used for each. Then click **F12 SAVE.**



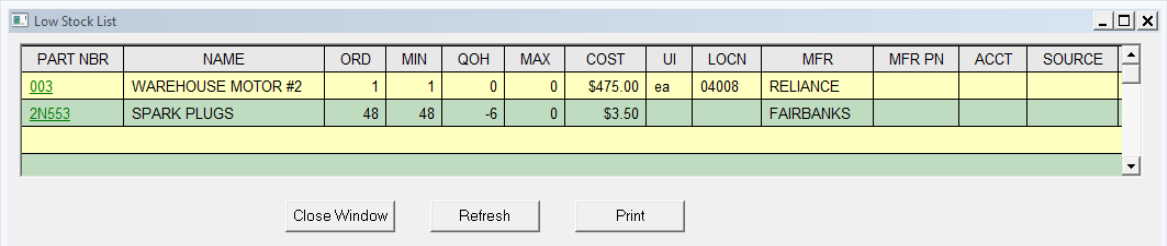
Double-click a Part Number (underlined green characters) to open the associated Spares screen. Notice that Benchmate has adjusted the quantity-on-hand (**QTY ON HAND**) by subtracting the quantity entered in the Service Log screen

Low Stock Report

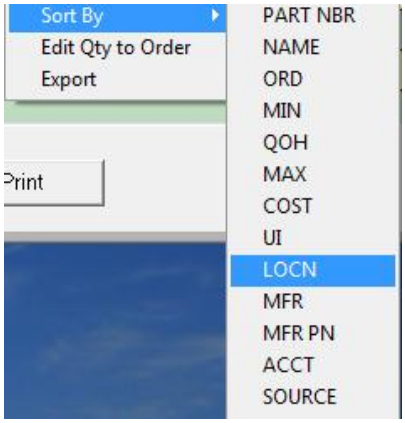
You can quickly check for ólow-stockô parts by clicking PRIMARY REPORTS and selecting Low Stock.



Benchmate scans the Parts database and displays ólow-stockô parts in a window.



This window can be sorted, quantity-to-order changed printed or exported to a Tab-Text file for loading into a spreadsheet. Right click in the window to display a pop-up menu.



You can also open the SPARES screen by double-clicking the PART NBR. If you change the Spare Parts screen, you should click Refresh to update the Low Stock window.

Implementation Essentials

Organizing Your Maintenance Data

This appendix presents important information to help you organize your data in Benchmate.

In order to retrieve meaningful information from Benchmate, **you must be consistent** in the way you enter data. Take time to plan how you will set up the data required on the major Benchmate screens. Once you have settled on the organization of just three types of information — Equipment, Jobs and Spare Parts — you will be able to quickly retrieve the information you need from the Benchmate database.

The following diagram indicates the fields to consider when you structure your data. Structuring suggestions for each field are discussed in this section of the Implementation Essentials.

	Equipment	Jobs	Spare Parts
Unique Identifier	Equipment ID	Job ID	Part Number
Validated	Building/System, Cost Center	Account, Priority, Lead Shop, Status	Category, Account
Free-form Entry	Equipment Name	Job Description	Part Name, Manufacturer

Equipment Screen

An Equipment screen must be created for each equipment for which you want to schedule work (jobs) or track maintenance activity. Four fields— equipment ID (**EQUIP ID**), description (**NAME**), cost center (**COST CTR**), and building (**BLDG**) — are copied to each job and Service Log entry for that equipment.

It is important to organize these fields before creating equipment screens. Each field represents different types of information. Do these in a single field. They are separated in Benchmate to make it easy to search for an óassociatedô group of equipment.

Equipment ID

The equipment ID (**EQUIP ID**) uniquely identifies each equipment. As shipped, Benchmate will append a unique 4-digit sequence number to the ñprefixò you enter in this field. This can be changed using the Setup program (Help Ÿ Support Ÿ Setup).

The **EQUIP ID** field contains up to 15 characters (upper case letters and numbers). Here are two approaches to organizing the prefix for this field.

- **By Equipment Type**: The prefix indicates the **type** of equipment. For example, C = Compressor, T = Turbine, M = Motor, EF = Exhaust Fan. For example, the **EQUIP ID** for the fourth exhaust fan would be EF-0004.

  This approach codes the equipment classification type as the first one to three characters of the **EQUIP ID,** so you can determine the equipment type from the first few characters. This approach allows you to compare maintenance costs and history for equipment of the same type, or to schedule work for similar equipment. It is also highly appropriate to use this approach when you expect move equipment from system to system.

- **By System Code**: The prefix indicates the system/equipment **hierarchy.** For example, the ñL004-MTR-0005ò could indicate the fifth motor (MTR) in Line 4 (L004).

  Its main advantages are:

  1. The equipment can be identified from its Equipment ID.
  2. System and subsystems maintenance costs can be collected using the leading portion of the Equipment ID

  The system approach has the obvious disadvantage that equipment canôt be moved from system-to-system without changing the Equipment ID.

NOTE**:** Generally, it is **not** appropriate to identify the building, location, cost center, or department in the **EQUIP ID** field since other fields contain this information. If you do this, you will lose much of the flexibility inherent in Benchmate and the ability to change these fields in the future. This information should be tracked in the designated fields.

Name

The Equipment Name appears on every job associated with the equipment. The name should clearly identify the equipment to anyone looking at a screen or viewing a report.

Building/System

The Building field identifies a group of equipment as well as its general location. The building code identifies the building and/or area where the equipment is located. It is often used to identify the system of which it is a component.

If most of your equipment is in a one building, the code may indicate the **area** inside the building. For example, ñ1-045ò for Bldg. 1, Area 45. The building code can also indicate the **system** to which the equipment belongs**.** For example ñL1ò Line 1, ñC2ò for Compressor 2.

Building codes are created and maintained in the Building Validation file. See Help Ÿ User Doc-Validation Files.

Cost Center

The Cost Center codes also identifies **groups** of equipment. Typically the cost center indicates the **department** using the equipment (such as Shipping or Production.). It can also identify the

system of which the equipment is a part. For example, ñDISTò for Distiller, TNK01 for Tank-1, ñP01ò for production line 1, ñP02ò for production line 2.

Cost center codes are created and maintained in the Cost Center Validation file. See Help Ÿ User Doc-Validation Files.

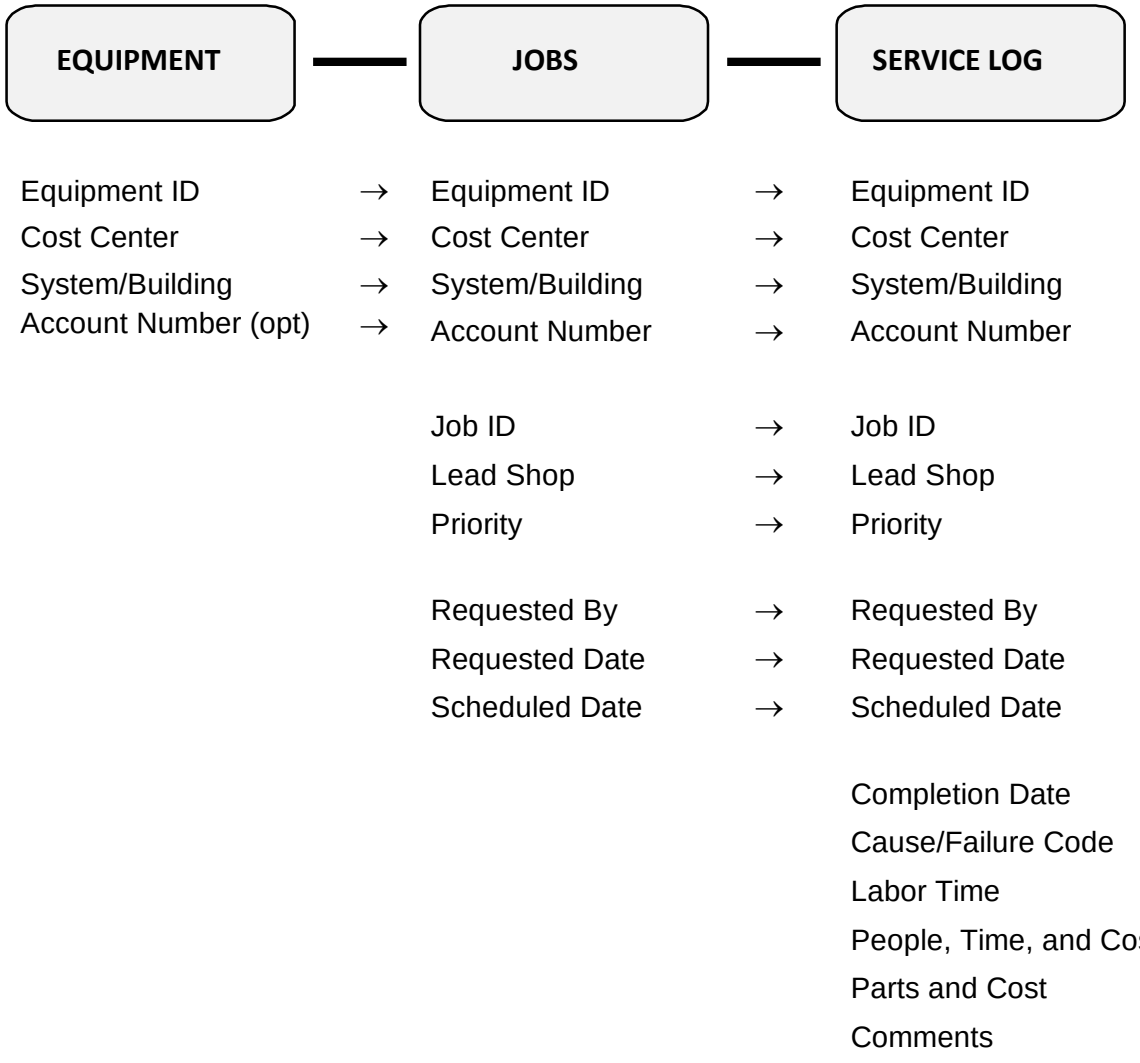
Job Screens

There are three types of jobs:

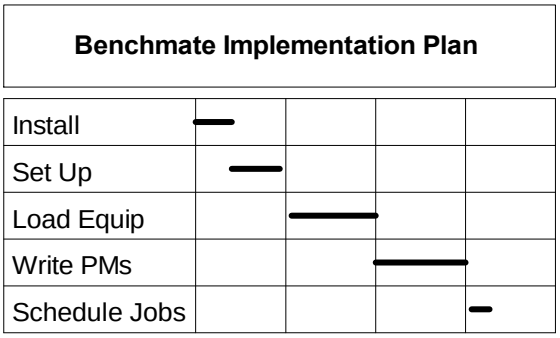
- Preventive Maintenance,
- Work Order and,
- Trouble Call.

Unplanned maintenance activity is created in the Service Log screen when the work is completed.

The following diagram shows where data related to a job is created and how it passes the Equipment screen to the Job screen and finally to the Service Log screen.



Implementation Guide



Use this guide to plan the implementation of Benchmate for your plant or facility.
CMMS implementation is a major undertaking. Done improperly, you may find it difficult to find important and useful information. Implementing a CMMS package involves more than installing the software and letting someone enter data. You must establish basic standards for the major screens so it will be convenient to find information. You want to be certain that sufficient information is established and collected so that you can become proactive - suggest and justify preventive actions - in order to increase the overall performance of your plant. You do not want expend significant activity in implementing Benchmate only to find out that you cannot obtain certain important information or that you are collecting information that is not useful or needed. Establishing an implementation plan for Benchmate need not be difficult. You should be able to establish a ñguideò within a day. You will probably find that your company has set up much of the information you need possibly, some of the data. The remainder can quickly be determined by some time ñup-frontò planning.

Setting Objectives

You probably had some basic objectives in mind when you justified the purchase of a CMMS. You should write them down in order of importance. Typical objectives are:

1. Establish a Preventive Maintenance program
2. Schedule and track maintenance work orders
3. Allow ñusersò to enter & track their own maintenance requests
4. Control spares inventory
5. Determine the ñproductivityò of maintenance people
6. Establish a maintenance history for each equipment

Determine who will interact with Benchmate and their role. Some of the questions to be answered are:

1. Who will schedule and print work orders and schedules?
2. Who will close out work orders?
3. Who will establish **and review** the equipment database and preventive maintenance files?
4. Who outside the maintenance department will need to use Benchmate? What is their role?
5. Will the storeroom be controlled (limited access)? When and by whom will parts issued be recorded?

Many people will interact with the system - even if they don't actually touch the keyboard or view the screen. For example, maintenance technicians will be expected to perform and report back on each assigned job. Managers will expect to see reports regarding work scheduled and performed.

Implementation

You should implement Benchmate in phases - each phase involving a new capability and more people. Test each phase using a small portion of your plant and people. Then proceed to full implementation.

There is no inherent advantage in implementing Benchmate one way or the other. Implementation should be based upon your priorities and expected benefits. Typically Preventive Maintenance can yield the most benefits if you have critical equipment which requires high maintenance activity.

The remaining sections in this guide present plans for implementing two of these phases.

- Setup (must be implemented first)
- Preventive Maintenance

Work Order tracking can provide significant benefits if you have a large number of work orders to track. Inventory management will reduce critical parts outages and can reduce the value of inventory carried. Use similar processes as the ones explained in the following pages when you implement the tracking of Work Orders and user requests and the management of inventory.

Setup

This phase involves familiarizing yourself with Benchmate and setting up the essential Validation files. This procedure should take no more than a few hours or a day depending upon the number of people involved and the information to be collected. We suggest that you proceed as follows:

1. Install Benchmate
2. Review the major screens. Prepare and print a few sample Preventive Maintenance procedures, Work Orders and/or Trouble Calls depending upon your objectives.
3. Prepare and print a few Inventory (Spare Parts) screens.
4. Build the essential Validation files.

The following figure illustrates the sequence.

Install Benchmate							
Prepare & print sample PMs/WOs							
Build Validation Files							
- Cost Center							
- Buildings							
- Personnel							
- Overtime							
- Shift Differential							
- Accounts							
- Job Status							
- Shops							

It is important to set up these Validation files initially since they are used throughout Benchmate. You will find it difficult to proceed with the next phases if they are not set up now. Donôt worry if they are incomplete. It is easy to change them later.

The **Cost Center** usually represents the department, which uses or operates various equipment. Typically the **name** (such as, Shipping, Production, Line 1) of each department is entered into this file. (Delete or replace the names which provided with Benchmate.) The Cost Center may not be required where there is a small number of equipment or it is not necessary to group equipment by user or department.

The **Building** represents either: 1) the general location of the equipment or 2) a system which consists of several equipment. The Building may not be required where all equipment is located in a single building **and** the **Location** field completely describes the equipment location.

The **Personnel** field contains the names of each person who may work on a job. The Personnel validation file also has provision for the **wage rate**. It is not necessary to use the rate unless you want to keep detailed labor **cost** records. Many users record only the labor hours for each job. Others use a shop rate rather than individual rate.

The **Overtime** and **Shift Differential** fields are useful **only** you need to keep track of special pay rates by job. (Most organizations have separate time keeping systems to track this information.)

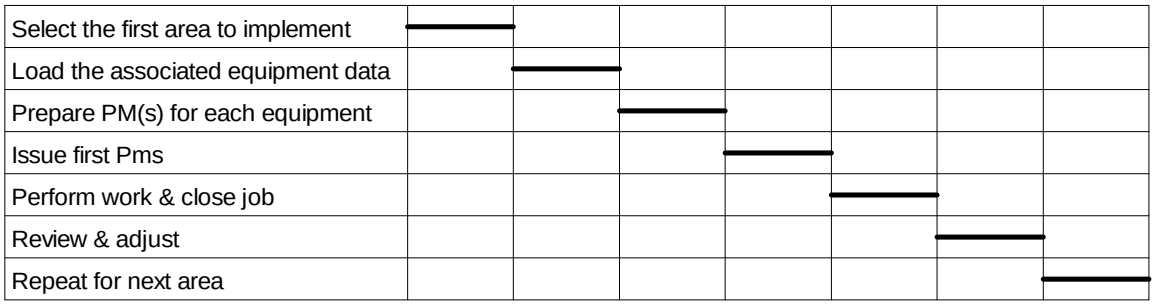
The **Job Status** file should be reviewed to be certain that the codes provided by Benchmate are applicable to your organization. You may want to modify this file slightly though most users accept (at least initially) it as is.

The names of the various work groups should be entered into the **Shops** file. While many maintenance departments do not use the ñshopò concept, work is often assigned by the type of work required (such as, general maintenance, electrical, mechanical, sub-contractor). Another common use of this field is to indicate the responsible **foreman** or **lead**. If you have a relatively small number of people to whom you assign work, you may want to use their names or initials.

Preventive Maintenance Program

To implement a Preventive Maintenance (PM) program, you must first create equipment **data** for which PM procedures will be written. Start with a small area of your plant where you need to perform PMs in the next few weeks. Create the Equipment and PM screens for this equipment. Schedule PMs and perform them. Close the jobs.

Preventive Maintenance Implementation Phase



After the first week, review the procedure with all persons involved - the clerks, trades people, supervisors, managers, etc. Determine areas of confusion, incompleteness, over-detail, applicability, etc. Make changes as necessary and schedules PMs for the next week. Repeat the process two or three times until it works smoothly.

Then you can proceed at ñfull speedò to implement Preventive Maintenance for the rest of your plant.

It is effective to implement just one PM and Equipment Screen for each equipment type. Later, when the screens have been validated, you can quickly duplicate the screens for similay by using the Benchmate ñCOPY" feature.

When you have completed implementing PMs, you may proceed to another implementation phase.

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