

# Work Order Management

Work Orders are the backbone of the SMMS system: they provide the vehicle for work scheduled, performed, recorded and reported.

Work orders are created through a variety of means. Preventive maintenance orders are created automatically through the scheduling function. Emergency, corrective and non-scheduled maintenance orders are entered manually as required; then printed immediately from the work order maintenance screen. You can also create a work order based on a "work request" received from another department.

Work Orders drive almost every transaction in the SMMS system, so we've concentrated on issues such as ease of use, rapid system navigation and quality system auditability as the major goals of our work order system.

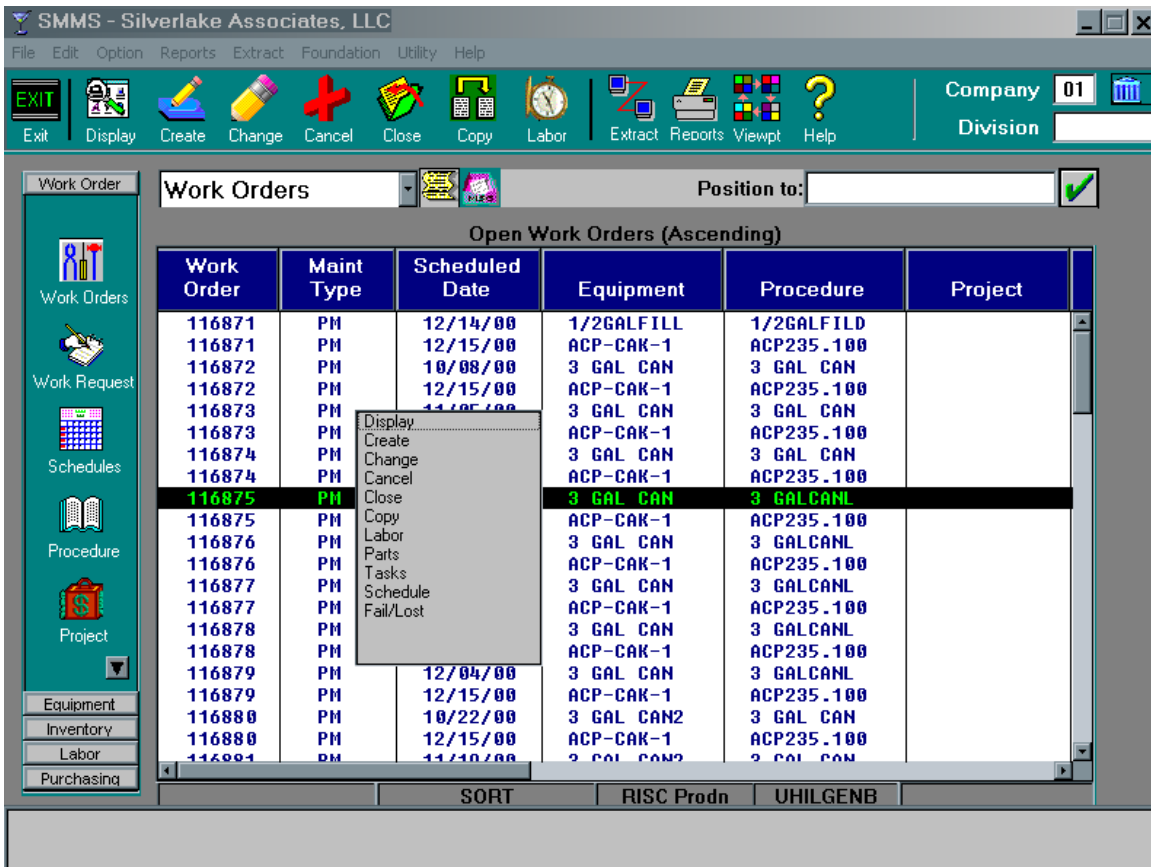


FIGURE 1

Figure 1 illustrates the work order list from the main SMMS screen. When you select a work order from the list, and press the right mouse button, a pop-up menu displays all of the options available for work order management. The pop-up menu appearance differs based on user security authorizations; the window shown in Figure 1 reflects a fully authorized user.

The Work Order list can be sorted by all of the major work order categories, including Work Order number, Equipment, Procedure, Project, Schedule date, Cost Center and Assigned to employee. You can also filter the list by Maintenance Type, Skill and Plant Shutdown code.

Sort and filtering defaults for all of the SMMS system are defined for each user in the user security file, and can be changed by the user while the program is running. You can also change the sort and filter settings while the program is running without affecting your default settings.

By selecting a tool bar icon, or one of the pop-up menu options, you are transferred to the work order maintenance screen for the function and work order you selected!

The screenshot shows the 'Work Order Maintenance' application window. At the top is a menu bar with 'File', 'Edit', 'Report', 'Download', 'Utility', and 'Help'. Below the menu is a toolbar with icons for 'Ok', 'Cancel', 'Exit', 'Create', 'Cancel', 'Close', 'Copy', 'Next', 'Extract', 'Reports', 'Messages', 'Output', and 'Help'. On the right side of the toolbar, there are fields for 'Company: 01' and 'Division:'. Below the toolbar is a tabbed interface with tabs for 'Order', 'Schedule', 'Completion', 'Parts', 'Labor', 'Task List', 'Notes', 'Safety', and 'Fail / Lost'. The 'Order' tab is currently selected. The main area contains several input fields and labels: 'Work Order: 115187', 'Equipment: ACP-CAK-1' (with a search icon), 'Procedure: ACP235.100' (with the description 'DAILY 8 HOUR MONITOR OF COMPRESSOR'), 'Work Request:' (empty field), 'Requested by:' (empty field), 'Cost Center: 009' (with a search icon and description 'RESEARCH & DEVELOPEMENT'), 'Project: AUDITS2000' (with a search icon and description 'INTERNAL AUDITS'), and 'Maintenance Type: PM' (with description 'Preventive Maintenance'). At the bottom, there are two radio button groups: 'Equipment downtime:' with 'Yes' and 'No' (selected) options, and 'Plant shutdown?' with 'Yes' and 'No' options. A 'Print Work Order' button is located on the right side of the bottom section.

**FIGURE 2**

Figure 2 shows the maintenance screen for a selected work order. The screen is presented in “notebook style” with nine notebook pages representing each of the major work order management functions: general information, scheduling, completion, parts required & used, labor, tasks, notes, safety & HAZMAT plan, and lost time codes.

## Reserving & Issuing Inventory Parts

**Work Order Maintenance**  
File Edit Report Download Utility Help

Company: 01  
Division:

Order | Schedule | Completion | **Parts** | Labor | Task List | Notes | Safety | Fail / Lost

Work Order: 115187      Schedule Date: 12/15/00

Parts

Task	Part	REQD		Reported		Location:
		Date	Quantity	Date	Quantity	
2	CNBRG0027	11/30/00	25	120400	25	M489
Description: BEARING BALL 65081-21						Unit Cost: 1.25
1	MEBRG0080	11/28/00	5			
Description: BEARING-GEAR BOX TANDLER						Unit Cost: 20.00
3	MEORN0179	11/30/00	4			
Description: O-RING						Unit Cost: .00
Description:						Unit Cost: .00
Description:						Unit Cost: .00

**FIGURE 3**

Figure 3 illustrates part requirements and usage reporting.

You can add parts required and parts used for a work order by scanning the part number with a bar code scanner, selecting it from a popup selection list, or typing the part number in directly. "Lookup" screens are available for Parts and Locations.

Required parts can be linked to a specific Task Id, which are independently schedulable.

If you're using the actual (or "replacement") costing method, you can enter the part cost directly on the work order screen as the parts are used.

## Work Order Tasks

The screenshot shows the 'Work Order Maintenance' application window. The title bar reads 'Work Order Maintenance'. The menu bar includes 'File', 'Edit', 'Report', 'Download', 'Utility', and 'Help'. The toolbar contains icons for 'Ok', 'Cancel', 'Exit', 'Create', 'Cancel', 'Close', 'Copy', 'Next', 'Extract', 'Reports', 'Messages', 'Output', and 'Help'. The 'Company' field is set to '01' and the 'Division' field is empty. The 'Task List' tab is selected in the navigation bar. The main window displays 'Work Order 115187' and 'Schedule Date 12/15/00'. Below this, a 'Task List' section contains a table with four tasks.

I/D	Task	Sch date:
1	Shut down unit, disconnect power, bleed off air pressure.	121500
	List #:	Req/PO #
2	Drain oil, replace oil filter and air filter.	121500
	List #:	Req/PO #
3	Fill with appropriate amount of fresh "Quin-Syn F" oil	121500
	List #:	Req/PO #
4	Check unit for leaks, loose fittings, loose bolts and nuts, and general appearance.	121500
	List #:	Req/PO #

FIGURE 4

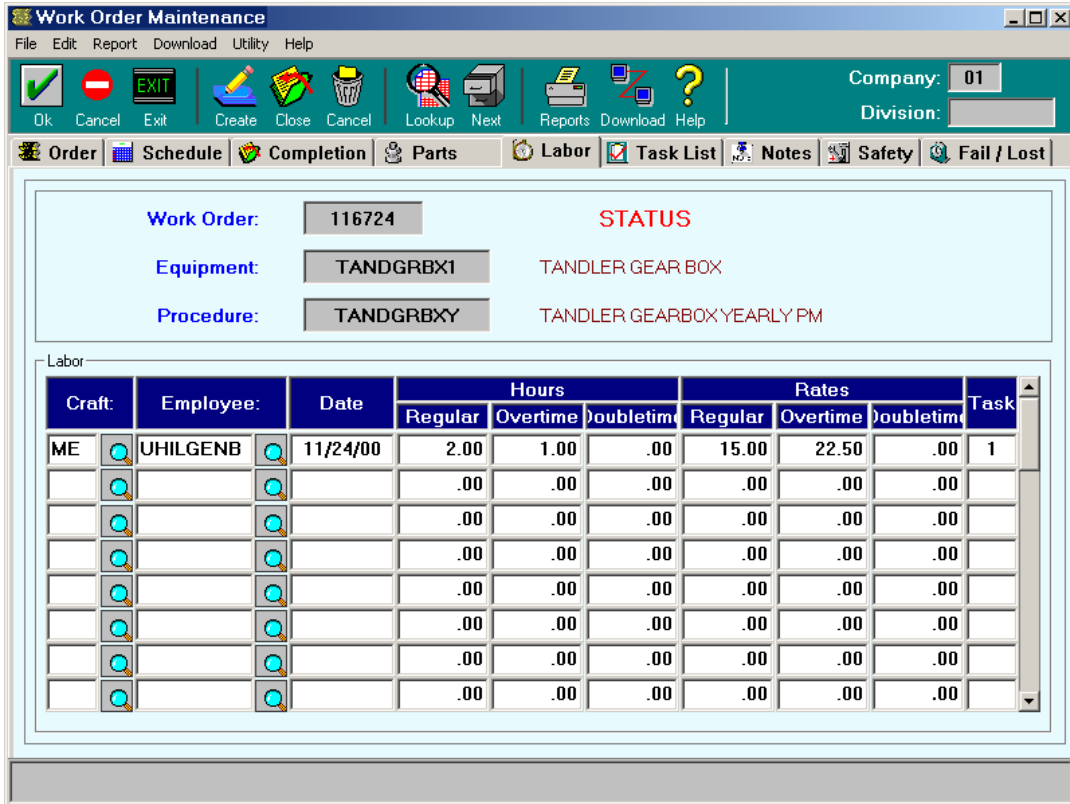
Figure 4 shows a sample work order task list.

Procedure tasks are sequentially numbered and each task can be independently scheduled. Each task can be up to 99 lines in length, and tasks can be modified, deleted or added as necessary. The work order task list becomes a permanent part of your work order and equipment maintenance history.

The ability to independently schedule tasks allows you to link purchase order requirement dates, fine-tune your labor schedule, and tie-in sub-contract work orders to contract maintenance.

Work order procedures that have "vendor outsource requirements" can automatically create a requisition or purchase order for the outside service, based on the contract list number defined on the procedure. The requisition number also becomes a permanent part of the work order task record, along with the task list it represents.

# Labor Reporting



**FIGURE 5**

Labor reporting records hours worked by craft and task id, and tracks the employee (Figure 5) reporting the labor. On large, time-consuming multi-craft orders, this approach to labor reporting lets you tie specific labor hours in to specific work order tasks, while preserving the speed and simplicity of reporting for routine jobs.

Labor rates are displayed on this screen if the user has authority to rates and costs in user security; otherwise, the rates section of this screen is hidden.

Double-click on any date field to display a calendar screen from which you can select a date.

## Changing Work Order Equipment & Procedures

SMMS allows you to change the Equipment and Procedure codes on an open work order, *after* the order has been created and even printed!

The screenshot shows a software dialog box titled "Change Work Order Equipment". At the top, there is a header bar with a green background containing icons for "Ok" (checkmark), "Cancel" (red circle with slash), "EXIT" (black box with white text), and "Help" (question mark). To the right of these icons are two input fields: "Company" with the value "01" and "Division" which is empty. Below the header is a tabbed interface with a single tab labeled "Change Equipment". The main content area has a light blue background and contains several fields: "Work Order:" with a text box containing "115187"; "Equipment Id:" with a table-like structure. The table has two columns: "Change From" with the value "ACP-CAK-1" and "Change To" with the value "AHU-1" and a magnifying glass icon; "Current Meter:" with a text box containing "0"; "Update Schedule:" with a dropdown menu showing "No"; and "Reprint Order?" with a dropdown menu showing "Yes".

FIGURE 6

The purpose of this feature is twofold:

- (1) It allows you to create investigative work orders against work requests, when the correct Equipment Id or Procedure may not be known from the start.
- (2) It allows you to create “generic” work orders in advance of need. For example, night shift, weekend, and other emergency situations where a person may not be readily available to enter a work order in to the system.

In both cases, you can change the procedure and equipment codes after the work has been performed – while still maintaining data integrity and work order reporting standards.