

Standard Operating Procedure

10 - USAGE BASED PM



A. Purpose

Usage Based PMs allows for the tracking and generation of procedures based upon a specified number of units, i.e. miles or hours. When a piece of equipment accumulates the specified number of miles or hours, a Usage PM work order is generated.

Note: Usage Based PMs may also be utilized in conjunction with establish time based frequency intervals, i.e. quarterly, annually, etc. Probably the best example of utilizing Usage Based PMs in conjunction with predetermined frequencies would be the standard vehicle oil change. This preventive maintenance procedure is usually conducted every *three months or 3,000 miles*.

B. Responsibilities

➤ **Maintenance Manager**

The Maintenance Manager is responsible for determining the scope, frequency interval, generation and creation of Preventive Maintenance procedures.

➤ **Customer Service / Technician**

Customer Service / Technician is responsible for updating the Usage field upon closing preventive maintenance work orders. The Technician is also responsible for performing the assigned task(s), noting the Usage unit level and making recommended adjustments to procedures as necessary.

C. Process Overview

Maintenance Manager / Customer Service / Technician

Step 1: Create a Condition based PM.

Step 2: Associate this Condition Based PM with a specific piece of equipment.

Step 3: Schedule Equipment PMs.

Step 4: Print PM Work Orders:

- Distribute PM Work Orders to Technicians
- Technicians Perform PM Tasks
- Technicians turn-in Completed Work Orders

Step 5: Close completed PM work orders.

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PREVENTIVE MAINTENANCE FORM

D. Process Steps

To establish a Condition Based PM through Usage, *i.e. Mileage*, follow the steps outlined below:

Step 1: Create a Condition Based PM

- **Create** a Condition Based PM for a particular type of equipment, *i.e. Vehicles*.

The screenshot shows the 'Preventive Maintenance' window with the following fields and values:

- PM Number: P000000911
- Parent PM: (blank)
- Superseded By: (blank)
- PM Information:
 - Status: OPEN
 - Asset Type: EQUIPMENT
 - Category: (blank)
 - Manufacturer: (blank)
 - Outage Class: (blank)
 - Create Superseded WO?:
- Work Order Information:
 - Assigned To: (blank)
 - Type: CORRECTIVE
 - Method: (blank)
 - Priority: 2
 - Department: (blank)
- Lead Days:
 - Work: 0
 - Schedule: 1
- Frequency:
 - Month: (selected)
 - Number: 3
- Task List:
 - CHECK & RECORD MILES
 - CHANGE OIL % FILTER

Fill in the standard Preventive Maintenance fields as per usual with the exception of the following:

- The **Superseded By** field is intentionally left **blank** as this Usage based PM is **never** superseded.
- **Tab** to the **Frequency** field and **select** a the **proper frequency, i.e. Month**
- **Tab** to the Frequency **Number** field and **type** in the **appropriate number of months, i.e. 3.**
- **Tab** to the **Task List** and **type** in **PM tasks.**

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PREVENTIVE MAINTENANCE FORM – LABOR BUTTON

- *Click* on the **Labor** Button



Primary Labor Requirements		
Crew	SizeCraft	Est Hours
MECHSVC	1	.25

Secondary Labor Requirements			
Crew	SizeCraft	Est Hours	Task List

- *Select* the **Crew**, *i.e.* **MECHSVC** from the list of values (*right click* or **F9**).
- *Tab* to the **Crew Size** and *type* the **number** required, *i.e.* **1**
- *Tab* to the **Craft** and *select appropriate value* (*right click* or **F9**).
- *Tab* to the **Est Hours** field and *type* in the **number** of hours, *i.e.*, **.25**
- *Click* **OK**

Result: *This will now bring you back to the Preventive Maintenance form.*

To associate this Condition Based PM with a specific piece of equipment:

- *Close* the **Preventive Maintenance** form
- *Go to* the **Equipment** form

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EQUIPMENT FORM

Step 2: Associate a Condition Based PM with a specific piece of equipment

- **Locate the equipment** you wish to establish the Usage PM for, *i.e. Equipment ID Number E000000934 – Vehicle #1.*

The screenshot shows the 'Equipment' form in the CAMIS system. The 'Equipment' field contains 'E000000934' and the 'VEHICLE #1' label. The 'Parent' and 'Category' fields are empty. The 'PMs' tab is selected, showing the following information:

Manufacturer	Location	Description	General Information
Mfr No. []	Site BSB05	Keyword []	Assessment Date []
Mfr Part No. []	Building 268BSB9000	Type VEHICLE	Service Guide []
Model []	Floor []	Asset No. []	Status / Condition ACTIVE
Serial No. []	Room []	Equip Group []	Rental Type []
	Zone []	PM Group []	Rental / Mileage Rate []
		Criticality []	Replacement Cost []
			Overall Rating []

- **Click** on the PMs Tab

Result: This will bring you to the Preventive Maintenance procedures for this piece of equipment

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EQUIPMENT FORM – PMs TAB

To insert the newly created Condition PM based on Usage:

- **Go to** a blank **PM Number** field
- **Right click** and **select List of Values** or **F9** in the **PM Number** field

Result: The Preventive Maintenance List Form appears

PREVENTIVE MAINTENANCE LIST FORM

Locate the **Condition Based PM** created by:

- **Tab** to the **Description** field and **type** **'%VEHICLE%'** or **Click** on the **Green Traffic Light** or **press F8**

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EQUIPMENT FORM – PMs TAB

- *Click* on the **Criteria** Button

Criteria - E000000934 / VEHICLE PM

Scheduling | Options | Override | Task List

Time-Based

Standard Override

Interval: Month

Number: 3

Based On:

Last Completion Date

Fixed Due Date:

Usage-Based

Usage Units: MILES

Usage Number: 3000

Est. Interval: Month

Number: 3

Condition-Based

Condition Type UM Pr Below Above

Condition Type	UM	Pr	Below	Above

Season

Starts: Ends:

OK Cancel

Result: *The Criteria form is now displayed for this PM.*

Ensure the following:

Time-Based:

- **Override** field is *Blank*
- **Last Completion** Date field is *selected*

Usage-Based:

- **Usage Units**, *type* in MILES
- **Usage Number**, *type* in 3000
- **Est. Interval**, *select* Month
- **Number**, *type* in 3

Condition Based:

- All conditions are left blank in this area.

Season:

- *Leave* this area **blank**

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EQUIPMENT FORM – PMs TAB

➤ **Click OK**

Result: *The Readings Based PM is now active.*

➤ **Click** in the **Next PM** date field, and **type** in the next **PM** date, *i.e. 12/19/03*.

Note: This PM when properly used will generate every 3 Months or 3000 miles, which ever comes first.

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EQUIPMENT FORM – Readings TAB

➤ **Click on Readings Tab**

Cond Type	U/M	Reading As Found	Reading As Left	Date	WO Number

- **Type MILES** in the **Usage Unit of Measure**
- **Type the Base Usage Reading, i.e. 56000** (beginning miles)

Close this piece of equipment at the **X**.

Step 3: **Go to** the **Schedule Equipment PMs Form** and **schedule** all equipment PMs.

Note: **The Equipment PMs will show up as Work Orders on the Current Schedule after the Equipment PMs have been scheduled.**

Step 4: **Print PM Work Orders**

- **Distribute OM Work Orders**
- **Technicians perform PM Tasks and Note Usage, i.e. Mileage**
- **Technicians turn-in completed Work Orders**

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Work Order Closing:

Step 5: Close completed Work Orders

At the next service interval:

Work Order Closing

WO Number: W000005570 VEHICLE INSPECTION

Equipment: E000000934 VEHICLE #1

Status: CLOSED
Type: CORRECTIVE
Start Date: FRI SEP 19, 2003
Due Date: SAT SEP 20, 2003
Completed: FRI SEP 19, 2003 10:57 AM

Usage: 59500

- **Change the Status** from OPEN to CLOSED
- **Type your Mileage Reading** in the Usage field, *i.e.* 59500

Result: *The mileage will now be tracked in the Readings Tab of the Equipment record.*

The system will now be able to calculate when the next 3000 mile service is due. When the system reaches 62500 or greater, a PM will generate when the Schedule Equipment PM's button is activated.