Preventive / Scheduled Maintenance

Preventive Maintenance

Note: Always refer to manufacture's (e.g. engine, transmission, axle) maintenance manual before performing any maintenance.

Preventive maintenance is a system that is designed to detect problem areas and prevent equipment failure and maximize machine availability. The system is based on a series of maintenance checks and servicing points. To be effective, a preventive maintenance program demands strict adherence to a planned schedule.

Benefits of Preventive Maintenance

Time spent making required periodic checks is a real investment in working equipment and efficient use of man hours. Valuable benefits can be realized, all of which mean savings in time and resources.

Preventive Maintenance:

- **Promotes Safety** - properly maintained equipment is better able to operate within its design specifications and react positively to the operator's control.
- **Improves Equipment Availability**- by minimizing the chances of breakdown.
- **Reduces Unexpected Downtime**- unexpected downtime is expensive and detracts from normal scheduled maintenance.
- **Allows Planning of Daily Production**- by knowing the condition of available equipment.
- **Allows Planning of Maintenance Man Hours**- by distribution of duties and necessary lead time for parts ordering.
- **Provides Complete History of Equipment**- based on performance, frequency and type of repairs and actual man hours expended on maintenance.

Establishing a Preventive Maintenance Program

The key to an effective preventive maintenance program is diligence in following a maintenance schedule set at regular planned intervals. Such intervals should be made compatible with the nature of operation of the equipment and with the capabilities of the maintenance facility. The intervals and inspection requirements must be planned, regular and consistent.

Specific maintenance should be completed using the following intervals:

- 10 Hours (each shift or daily)
- First 50 Hours
- First 100 Hours
- 50 Hours (weekly)
- 100 Hours (bi-weekly)
- 250 Hours (monthly)
- 500 Hours (quarterly)
- 1000 Hours (semiannually)
- 1500 Hours or 1 Year
- 2000 Hours or 1 Year
- 3000 Hours
- 4500 Hours or 2 Years
- 6000 Hours or 3 Years
- 10,000 Hours or 5 Years
- 12,000 Hours or 6 Years

Each successive schedule (e.g. weekly, monthly, quarterly, etc.) builds on the former and is accumulative in nature. For example, when performing weekly maintenance, the mechanic will first take note of the shift maintenance, and in addition will perform the checks specified in the weekly schedule.

Maintenance Record Keeping

The importance of good record keeping cannot be overemphasized. Each scheduled maintenance form should be checked off as the inspections and service is performed. Quantities of replenished lubricants should be recorded, as well as hydraulic pressure readings. All discrepancies should be recorded whether remedied or pending. Operators and mechanics should sign off forms and return them to the maintenance supervisor for approval and retention in an equipment unit life.

Accurately recorded maintenance forms will give the maintenance personnel an overall view of how particular equipment is holding up under specific operating conditions. Good records and the ease by which they can be reviewed also enable maintenance personnel to identify and evaluate problem areas and allow adjustment in the maintenance scheduling for their particular operation.

Shift Maintenance

Shift Maintenance is where preventive maintenance begins. The operator normally completes this inspection. It consists of the routine servicing and lubrication of the machine's major systems. On a daily basis, the operator is in a position to identify, remedy and/or record potential problem areas and is able to quickly recognize any change in the performance of the machine. The comments he or she records on the shift maintenance report become a valuable tool for the maintenance department, and is important to the overall success of a preventive maintenance program.

Shift Maintenance Checklist

See Section 5-4-1. A recommended checklist is given here as an aid in developing a practical shift maintenance program, if one has not been developed by your company. A shift maintenance report, based on the checklist, should be used to report defects found when making maintenance checks at the beginning of each shift.

Your company may have a different reporting method, however, it is usually a requirement that this form be filled out at the end of each shift. Accurate shift maintenance reports can help your company anticipate maintenance problems and take action to prevent costly failures.

Using the Checklist

The reference numbers in the left-hand column of the checklist indicate the physical location of each check point or lubrication point as it appears on the shift maintenance diagram.

Shift maintenance details are provided in section 5-4-1. These procedures consist of checks that can be performed by the operator.

Scheduled Maintenance

Periodic scheduled maintenance is intended to be performed in a complete maintenance facility by trained mechanics. The timely scheduling and completion of these periodic inspections by the maintenance department will determine the length of downtime of a particular machine.

Therefore, maintenance scheduling becomes a critical factor in the effective use of man hours and the availability of serviceable equipment.

Scheduled Maintenance Checklists

Actual operating environment governs the maintenance schedule. Some checks should be performed more often under severe conditions, such as heavy dust, extreme temperatures or extremely heavy loads.

The maintenance checklists in section 5-4-2 are designed to be used as a guide until adequate experience is obtained in establishing a schedule to meet your specific needs.

A detailed list of component checks is provided with a suggested schedule basis given in hours of operation, or calendar time.

The engine manufacturer's operation and maintenance manual should be consulted for additional engine related checks.

A maintenance schedule should be established using these checklists as a guide. The result will be a maintenance program to fit your specific operation.

Using the Checklists

Scheduled maintenance is normally carried out by trained mechanics who are knowledgeable of the equipment systems and component locations. Scheduled maintenance procedures can be found by referring to the appropriate section of the service manual.