

Why Is It Important To Maintain Your Machine Tools?

A machine tool is a valuable piece of equipment for any company. When properly cared for, they can last for years. Whether it's maintenance on operational components, a machine's motor, or specific attachments, routine check-ups, and preventive maintenance are crucial in ensuring the performance and longevity of your machine tools.

Essential Machine Tool Maintenance Checks

Regardless of the machine tool, four key items should be on every maintenance checklist:

01 Lubrication



For any machine that has moving parts, it's very important to minimize friction to avoid overheating and excessive wear. The easiest way to achieve this is with proper lubrication. Without the proper amount of lubrication, machine tools can face premature wear and tear, which could lead to extensive damage or machine breakdowns.

If your machine tools are used daily, make sure your operator checks the lubrication levels for internal components, leaks under the machine, and inspection on the moving axis's ensuring not build up of chips. To ensure effective lubrication, it's important to regularly monitor the quantity, quality, and chemical composition of the lubricant.

02 Calibration



When a machine tool is initially installed, it should function within a particular set of manufacturing tolerances. However, using machines over time is bound to cause steady displacement from these specifications. Common causes of displacement include:

- ▶ **Unavoidable wear and tear**
- ▶ **Operator mistake or misuse**
- ▶ **Extensive operation in an extreme environment, such as high temperatures or high humidity**

If a particular attachment or component of your machine tool becomes misaligned, it can lead to decreased quality. To remedy this, calibration tests should be conducted regularly.

03 Cleaning



The cleanliness of a machine tool is often overlooked when it comes to breakdowns. However, neglecting this step can lead to major issues. The build-up of debris can interfere with operations, cause unnecessary wear and tear, and even pose a threat to worker safety.

Some parts of the machine can be easily cleaned with a rag and degreaser. Other parts may be time-consuming and require some disassembly with specialized tools. In any case, it is important to understand the functional requirements of your machine tool before attempting to clean it.

04 Accessory and Parts Management



Having the proper spare parts and accessories on hand is crucial to ensuring the effectiveness of your maintenance program. Lacking these items can hinder your overall maintenance tasks and prolong machine tool downtimes.

To avoid this, the maintenance planner should take note of which parts and accessories are critical for machine tool operation and decide on the appropriate stock level. These parts should be properly handled and stored to ensure they remain in good condition for when they are needed.

Formulate Your Machine Maintenance Strategy

Preventive maintenance is important in ensuring that you will get the most out of your machine tool. When determining the proper frequency of preventative maintenance for your machine tool, you can take one of the following approaches:

Time-Based Approach

A time-based approach schedules preventative maintenance tasks based on a set time frame. For example, you could choose to perform preventative maintenance every 10 days.



Usage-Based Approach

With a usage-based approach, preventative maintenance is conducted when machine tool usage hits a particular benchmark.



Condition-Based Approach

This approach is the most proactive, as it monitors the actual condition of the machine tool to determine which particular maintenance tasks are required.



Depending on the machine tool and operations, these strategies can be used independently or in conjunction with one another.

When It's Time For A Machine Repair Or Rebuild

When considering if a machine should be repaired or replaced, certain factors should be considered. Repairs can be conducted on-site, offering faster completion times than rebuilds or replacements.

Although repair services provide a quicker way to improve equipment longevity, it is not always the best option. With a rebuild, more systems can be restored or replaced while also upgrading the performance and appearance of your machine tool.

Work With Precision Service Machine Tool Rebuilders

Precision Service MTR has over 30 years of experience with repairing and rebuilding machining tools. Over the decades, we have become a trusted name in the machining industry, providing customers with quality onsite repair, custom rebuilding, and many more beneficial services. At Precision Service MTR, we are committed to customer satisfaction, and we strive to help businesses keep their machines in optimal working condition.

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