

~ Injection Molding Machine Maintenance Service ~  
**Preventive Maintenance for Electric Injection Molding Machine (Toggle Machine)**

We offer a variety of maintenance services to ensure that our customers can use our injection molding machines safely and reliably. This time, we would like to introduce **a variety of preventive maintenance menus for electric toggle type injection molding machines.**

➤ **Importance of periodic inspections and maintenance management**

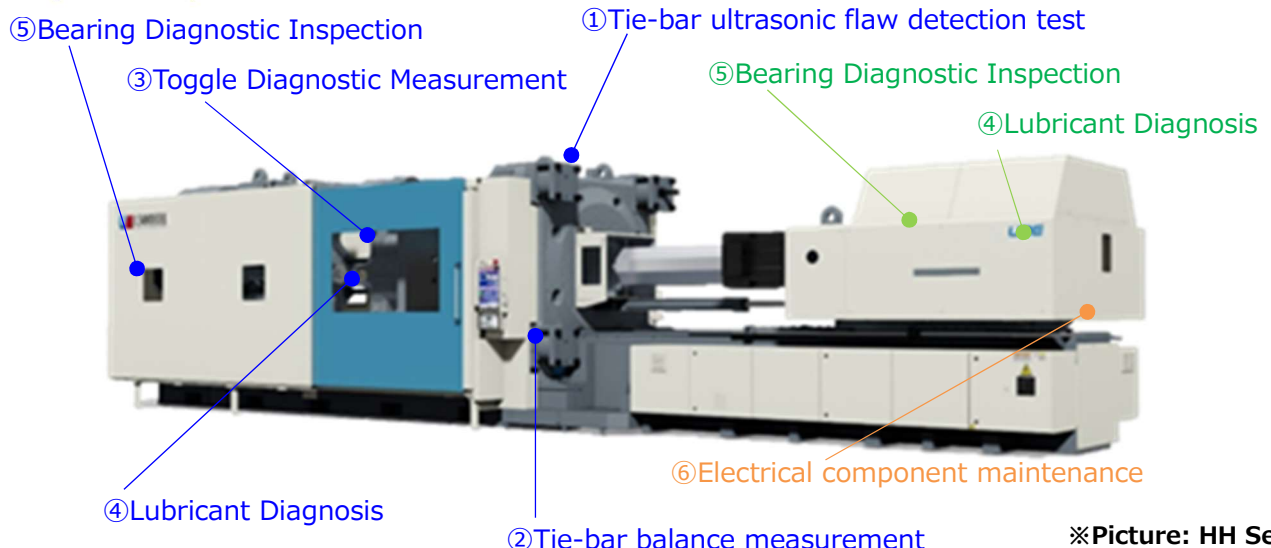
◎ **Signs of failure/damage**

As the degree of abnormality increases, vibration and noise may occur. However, it is not easy to detect abnormalities not yet showing damaged, or minor damage in the early stages, during daily operation. Therefore, it is important to periodically inspect and check for abnormalities.

◎ **Periodic inspection and maintenance management**

By conducting periodic inspections, abnormalities can be detected and countermeasures can be taken at an early stage. In addition, based on the results of these periodic inspections, replacement plans for parts can be established as needed, which can reduce unexpected changes in production plans, drastically reduce maintenance costs, and contribute to the formulation of a planned maintenance budget.

➤ **Inspection point and maintenance menu**



※Picture: HH Series

※Parts and components used vary depending on the model.

### ① Tie-bar ultrasonic flaw detection test

Ultrasonic testing is an inspection technique that uses ultrasonic waves to evaluate the internal defects of a part “without destroying the part”.

The purpose of ultrasonic testing is to prevent machine downtime due to broken tie bars.

### ② Tie-bar balance measurement

Tie bar balance is the uniformity of the mold clamping force borne by each of the 4 tie bars.

The elongation of each tie bar is measured using strain gauges to (1) prevent tie bar breakage caused by excessive loading, (2) prevent mold damage, and (3) prevent burring of molded products.

### ③ Toggle Diagnostic Measurement

This is an inspection in which strain gauges are attached to the toggle components to ascertain the status of worn parts and sections. It is possible to grasp the wear of toggle pins, etc., and helps to determine the timing of replacement and preliminary maintenance.

### ④ Lubricant Diagnosis (grease iron powder concentration measurement)

By periodically measuring the concentration of iron powder in the grease, changes in the condition of the ball screws can be numerically and continuously managed.

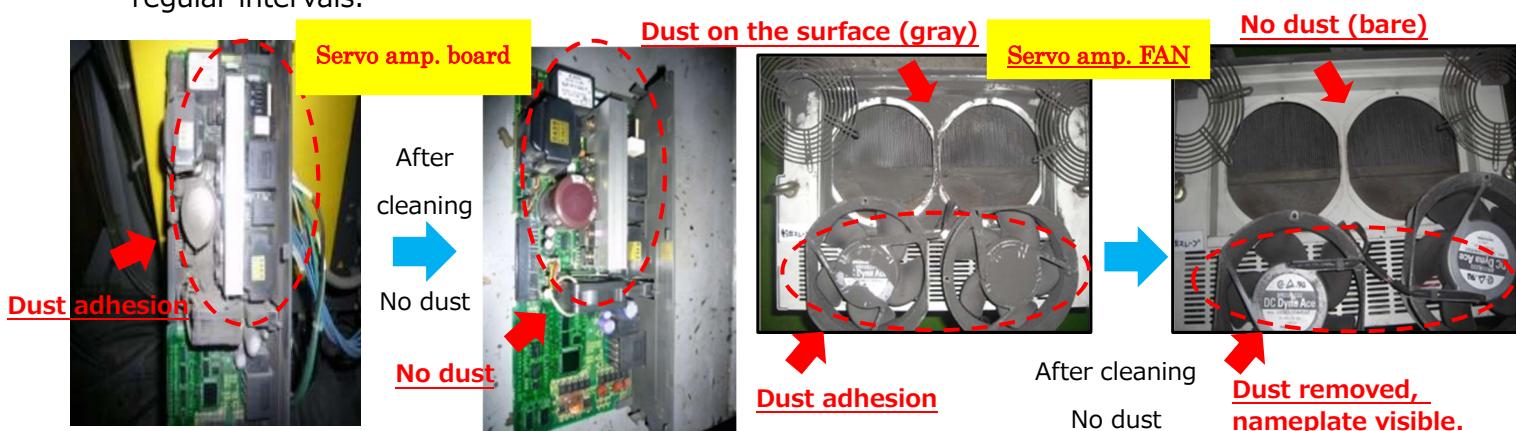
This enables visible management of the degree of condition change of ball screws and evaluation of whether a detailed investigation is necessary.

### ⑤ Bearing Diagnostic Inspection

The degree of bearing deterioration is diagnosed by measuring the vibration generated from the bearing during rotation and analyzing the waveform. In particular, when there is a bearing abnormality, minute vibration disturbances that do not occur in the normal state are generated. This vibration disturbance leads to abnormal noise, which can be difficult to detect with human hearing, especially occurring in the early stages of abnormality. Bearing diagnostic tests are used to measure and analyze these minute vibration disturbances and detect abnormalities.

### ⑥ Electrical component (Servo amplifier board, Fan) maintenance

Dust on the servo amplifier board, FANS, etc. can cause malfunctions and failures, and in the worst case can lead to machine stoppage. Therefore, the purpose of preventive maintenance of electrical components is to prevent equipment failure by preventively replacing and cleaning components at regular intervals.



We offer a wide variety of services. If you have any questions or concerns, please feel free to contact our offices or service centers. You can also contact us through the “Contact Us” page on our website.

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