## Trouble Shooting for Milling Machine

<table>
<thead>
<tr>
<th>Trouble</th>
<th>Analysis</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The workpiece milled is not flat</td>
<td>The spindle bearing is loose</td>
<td>Adjust the spindle bearing gap</td>
</tr>
<tr>
<td>The machine shakes when cutting workpiece</td>
<td>The gibbs of X, Y axis are loose</td>
<td>Adjust the gibbs’ gap</td>
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<tr>
<td></td>
<td>The processing amount is too much</td>
<td>Choose reasonable processing amount</td>
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<td></td>
<td>The tools are damaged</td>
<td>Change the tools</td>
</tr>
<tr>
<td></td>
<td>The machine is located unsteadily</td>
<td>Retighten the machine</td>
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<tr>
<td></td>
<td>The cutting condition is not good</td>
<td>Choose suitable cutting feed</td>
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<tr>
<td>Handle feeling is heavy</td>
<td>the wedge is too tight</td>
<td>Adjust the wedge</td>
</tr>
<tr>
<td>The spindle sleeve is tight</td>
<td>The gap between lead screw and screw nut is not right</td>
<td>Adjust the gap</td>
</tr>
<tr>
<td></td>
<td>Oil line blocked</td>
<td>Check the oil line and repair it</td>
</tr>
<tr>
<td></td>
<td>No oil in oil pump</td>
<td>Add oil</td>
</tr>
<tr>
<td></td>
<td>The oil pump does not work</td>
<td>check the oil pump and oil line</td>
</tr>
<tr>
<td>The spindle sleeve is tight</td>
<td>The spindle sleeve lacks of oil</td>
<td>Add oil</td>
</tr>
<tr>
<td></td>
<td>The spindle sleeve is dirty</td>
<td>Clean the spindle sleeve and repair it</td>
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<tr>
<td>No coolant liquid</td>
<td>The water pump does not work</td>
<td>Check the water pump</td>
</tr>
<tr>
<td></td>
<td>The water pump turns in reverse direction</td>
<td>Change its rotation direction</td>
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<tr>
<td>The spindle feed is not smooth</td>
<td>The fixed bar of hi-lo sleeve is not loosened</td>
<td>Loosen the fixed bar</td>
</tr>
<tr>
<td>The spindle brake does not work normally</td>
<td>The brake circle is damaged</td>
<td>Change the brake circle</td>
</tr>
<tr>
<td>The spindle does not rotate</td>
<td>The switch has poor contact</td>
<td>Check the power switch</td>
</tr>
<tr>
<td>The belt is too tight</td>
<td>Adjust it</td>
<td></td>
</tr>
<tr>
<td>Something with the motor</td>
<td>Repair it</td>
<td></td>
</tr>
<tr>
<td>Wrong rotation direction</td>
<td>The power switch turns to the wrong direction</td>
<td>Change the switch indication position</td>
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</tbody>
</table>
2. Maintenance

2.1 Everyday maintenance

1）Check the coolant liquid level, and decide whether the liquid should be added.
2）Check the lubrication pump’s oil level, and decide whether the oil should be added.
3）Clean the spindle hole with clean cloth, then sprinkle some light oil.
4）Clean the scraps in the chuck to assure the accuracy.
5）Clean the exposed limited switch to keep it from damage.
6）When choosing the coolant system, clean the messes in the chip tray in case of liquid outlet blocking.
7）Keep the environment all round the machine clean.
8）The working light should be turned off in ten minutes after it is used for eight hours constantly, for fear that it works long time in high temperature and decrease the lifetime.

2.2 Quarterly maintenance

1）Clean or change the coolant liquid to keep it clean.

2.3 Semiannual maintenance

1）Check whether the scraper of every axis is ok and its effect.
2）Check whether the milling motor running normally.
3）Check whether the mechanical feed and travel switch are normal.
4）Check and adjust the machinery horizontal.

2.4 Annual maintenance

1）Check the vertical accuracy of every axis, then adjust it.
2）Check whether the lubrication oil tube and connector are good, and whether there are oil leak or damage