

Troubleshooting

(Hydraulic chuck)

	Details of the trouble	Cause	Pulled out of holder. Unable to attach fast to spindle or holder in case of MT shank.
1	Tool clamping is not possible.	<p>① Tool shank is too small.</p> <p>② Oil leakage</p>	<p>① Check if shank diameter is h7. Use h7 shank tool.</p> <p>② •Check clamping function. (No. of revolution of actuating screw) •Ask NT for repair.</p>
2	Hard to insert a tool (unable to insert)	<p>① Scratch or dent in chuck ID and tool shank</p> <p>② Tool shank is too large.</p> <p>③ Actuating screw is not fully returned and ID of clamping sleeve was deformed with residual pressure.</p> <p>④ Notch or flat of tool shank deforms chuck ID.</p> <p>⑤ Insufficient tool insertion length deforms deep area of chuck ID.</p>	<p>① •Replacement of chuck or tool •Touching up of area in question (rubbing off with sand paper #1000 and above) Correction (grinding) by NT TOOL is not possible. •Ask NT for repair.</p> <p>② Use h7 shank tool.</p> <p>③ Insert tool after fully loosening the screw.</p> <p>④ Use a tool without notch or flat and the chuck must be returned to NT TOOL for repair.</p> <p>⑤ •Ask NT for repair. •Keep minimum insertion length of tool.</p>
3	Tool will not be pulled out.	<p>① Seizing from tool slippage (Seizing caused by impact when tool is broken)</p> <p>② Notch or flat of tool shank deforms chuck ID.</p> <p>③ Insufficient tool insertion length deforms deep area of chuck ID.</p>	<p>① Ask NT for repair.</p> <p>② Use a tool without notch or flat</p> <p>③ Keep minimum insertion length of tool.</p>
4	Tool is pulled out during operation.	<p>① Insufficient clamping force</p> <p>② Insufficient tool insertion length</p> <p>③ Tool shank diameter is smaller than h7 tolerance.</p> <p>④ Cutting resistance (bending moment) is too large. (Pull out of tool because of pestle-like movement.)</p> <p>⑤ Insufficient rigidity of holder</p>	<p>① Check clamping function. (No. of revolution of actuating screw)</p> <p>② Keep minimum insertion length of tool.</p> <p>③ Use h7 shank tool.</p> <p>④ •lower cutting resistance a. Higher rotation or lower feed rate (Approx. 20%) b. Lower cutting depth •Lower bending moment c. Shorter tool projection length</p> <p>⑤ Use different chuck (holder) Trial of collet holder, milling chuck or shrinker chuck</p>
5	Chattering	<p>① Chattering from holder's resonance</p> <p>② Insufficient clamping force</p> <p>③</p>	<p>① Shift rotation speed (more than 10%)</p> <p>② Check clamping function. (No. of revolution of actuating screw)</p> <p>③</p>

		<p>Insufficient tool insertion length</p> <p>④ Tool shank diameter is smaller than h7 tolerance.</p> <p>⑤ Cutting resistance is too small in comparison with holder's rigidity.</p> <p>⑥ Cutting resistance is too large in comparison with holder's rigidity.</p> <p>⑦ Bending moment is too large.</p> <p>⑧ Inappropriate choice of holder (chuck) for the cutting</p> <p>⑨ Mischoice of retention stud</p> <p>⑩ Expansion of BT shank because of over-tightening retention stud</p>	<p>Keep minimum insertion length of tool.</p> <p>④ Use h7 shank tool.</p> <p>⑤ Revision of cutting conditions (Higher cutting resistance) a. Higher feed rate or lower rotation speed (Approx. 20%) b. Higher cutting depth</p> <p>⑥ •Revision of cutting conditions (lower cutting resistance) a. Higher rotation speed or lower feed rate (Approx. 20%) b. Lower cutting depth</p> <p>•Use larger tool chuck.</p> <p>⑦ •Shorter tool projection length •Shorter projection length of chuck</p> <p>⑧ Use different chuck (holder) Trial of collet holder, milling chuck or shrinker chuck</p> <p>⑨ Use designated retention stud for the machine.</p> <p>⑩ Keep recommended torque value for tightening retention stud.</p>
6	<p>Deteriorated runout accuracy during cutting Guidelines: 15 micrometers and more at 4d</p>	<p>① Rust, scratch or deformation of chuck ID</p> <p>② Insufficient chucking length</p> <p>③ Scratch or dent on tool shank</p> <p>④ Notch or flat of tool shank</p> <p>⑤ Expansion of BT shank because of over-tightening retention stud (BT30 in particular)</p> <p>⑥ Poor accuracy of tool</p> <p>⑦ Dust seizing in chucking area</p> <p>⑧ Deteriorated accuracy of tool interface • Large runout (2 micrometers and above) of spindle ID or end face (in the case of two-face contact) • Dust, scratch or dent on taper area or end face (in the face of two-face contact)</p>	<p>① •Replacement of chuck or tool •Touching up of area in question (rubbing off with sand paper #1000 and above) Correction (grinding) by NT TOOL is not possible. •Ask NT for repair.</p> <p>② Keep minimum insertion length of tool</p> <p>③ Scratch or dent must be removed.</p> <p>④ Use a tool without notch or flat.</p> <p>⑤ Keep recommended torque value for tightening retention stud.</p> <p>⑥ Replacement of tools</p> <p>⑦ Cleaning of chuck ID</p> <p>⑧ •Regrinding or correction of machinespindle •Cleaning of taper and end face (in the case of two-face contact), touching up of scratch or dent</p>
7	<p>Deteriorated runout accuracy (flange type)</p>	<p>① Misalignment of installation part</p> <p>② Burr in the undercut at the deep end of ID mouth</p> <p>③ Misalignment between flange part and chuck part (2-piece type)</p>	<p>① Re-installation into the spindle</p> <p>② Deburring (Sandpaper #1000 and above)</p> <p>③ Check runout of ID from the flange</p>