Troubleshooting
（Collet chucks）

	Details of the trouble	Cause	Pulled out of holder. Unable to attach fast to spindle or holder in case of MT shank.
1	Poor machining accuracy	① Poor concentricity of drill (regrinding error) ② Poor accuracy of cutting tool. (diameter, runout or shapness etc.) ③ Large runout of tool ④ Improper cutting conditions	① ・Replacement with new tool ・Center drilling before making drill holes ② Tool replacemen ③ ・Refer to "poor runout accuracy" below. ・Use "R-Zero" holder. ④ ・Check recommended cutting conditions by tool maker. ・Lower feed per tooth
2	Chattering	① Chattering from holder's resonance ② Cutting resistance is too small in comparison with holder's rigidity. ③ Cutting resistance is too high in comparison with holder's rigidity. ④ Bending moment is too large. ⑤ Low taper contact of interface ・ Poor taper contact from expanded spindle nose ・ Dust, scratch or dent in the taper part or end face (in the case of two-face contact) ⑥ Mischoice of retention stud ⑦ Expansion of BT shank because of over-tightening retention stud.	① Shift rotation speed (more than 10%) ② Revision of cutting conditions (Increase cutting resistance.) a : Higher feed rate or lower rotation (Approx. 20%) b : Higher cutting depth ③ ・Revision of cutting conditions (Decrease cutting resistance.) a : Higher rotation speed or lower feed rate (Approx. 20%) b : Lower cutting depth ・Use bigger tool holder ④ ・Use bigger tool holder ・Shorter tool projection length ・Shorter holder length ⑤ ・Regrinding and correction of machine spindle ・Cleaning of taper and end face (in the case of two-face contact) , touching up of scratch or dent. ⑥ Use designated retention stud for the machine ⑦ Keep recommended torque valuefor tightening retention stud.
3	Tool is pulled out during operation	① Insufficient tightening of cap nut ② Insufficient tightening of cup nut fromrotor ring's malfunction ③ Insufficient tightening of cup nutbecause of increased friction. （Collapse of collet is not big enough.） ④ Cutting resistance is too large. (Pull out of tool because of pestle-like movement.) ⑤ Insufficient rigidity of holder	① ・Keep recommended torque value for tightening cap nut. ・Use torque wrench. ② Replacement of cap nut ③ Apply oil (grease) on the thread part. ④ Cuting resistance should be lowered. a : Shorter tool protruding length b : Higher rotation or lower feed rate （Approx. 20%） c : Lower cutting depth ⑤ ・Use bigger tool holder. ・Recommendation of milling chuck or shrinker chuck instead.

4	Poor runout accuracy during cutting Guidelines AA grade collet 20 micrometers and more at 4D	① Poor chucking accuracy of collet ② Dust seizing in collet insertion area ③ Scratch or dent in holder ID ④ Scratch or dent on collet ID and OD ⑤ Insufficient chucking length ⑥ Poor accuracy of tool ⑦ Dust seizing in cap nut thread ⑧ Malfunction of rotor ring of cap nut (Rotor ring will not rotate smoothly.) ⑨ Elasticity of preset screw is lost. ⑩ Expansion of BT shank because ofover-tightening retention stud. ⑪ 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)	① ・Replacement of collets ・AA grade collet should be used. ② Cleaning of collet insertion area ③ ・Replacement of holder 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. ④ Replacement of collets ⑤ Keep minimum insertion length. (collet ID length must be filled.) ⑥ Replacement of tools ⑦ Cleaning of thread part, applying grease ⑧ ・Cleaning of cap nut （so that rotor ring will rotate smoothly) ・Replacement of cap nuts ⑨ ・Chuking too with its tail detached fromholder body ・Replacement of preset screws ⑩ Keep recommended torque value fortightening retention stud. ⑪ ・Regrinding or correction of machinespindle ・Cleaning of taper and end face (in the case of two-face contact), touching up of scratch or dent
5	Cap nut is loosened during operation	① Insufficient tightening of cap nut ② Insufficient tightening of cap nut because of increased friction in the thread part	① ・Keep recommended torque value for tightening cap nut. ・Use torque wrench. ② Apply oil (grease) on the thread part after cleaning it.
6	Cap nut will not rotate be loosened generate noise	① Seizing of foreign matters in threadarea ② Seizing of thread because of over-tightening cap nut. ③ Increased friction of thread part of cap nut due to insufficient lubrication	① Cleaning of thread part ② ・Keep recommended torque value for tightening cap nut. ・Use torque wrench. ③ Apply oil (grease) on the thread part.
7	Collet will not be removed from holder body	① Wrong installation of collet	① Secure installation of collet in cap nut before tightening it.
8	Coolant leakage	① OH or C type collet is not in use. ② Insufficient tool chucking length ③ Tool shank diameter is too small. （Smaller than collet ID by 0.2mm andmore.)	① Selection of FDC-OH or FDC-C ② Keep minimum insertion length of tool (collet's ID length must be filled.) ③ Selection of right collet for tool shank diameter

9	Preset screw will not move smoothly.	① Seizing of dust on thread part	① Cleaning of threda part after removing preset screw