Troubleshooting

(Multibore tooling system)

	Details of the trouble	Cause	Pulled out of holder. Unable to attach fast to spindle or holder in case of MT shank.
1	Insert cannot be mounted	① Designated insert is not used. ② Designated insert mounting bolts are not used.	① Use designated insert. ② Use designated mounting bolts.
2	Cannot adjust diameter.	① Adjustment is being made with lock bolt tightened. ② Exceeding adjusting range.	① Adjust with lock bolt loosened. ② Adjust within the adjusting range.
3	Master shank and head do not come together.	① Wrong size. ② Abrasion of clamp bolt. ③ Deposition of chips, dust, rust and coolant residual on the connecting portions of master shank and head. ④ Scratches and/or dent on connecting portions of master shank and/or head (I.D., end face)	① Check size. ② Replacement of clamp bolt. ③ Clean connecting portions of master shank and head. ④ Replace master shank and/or head.
4	Chattering	① Cutting resistance is too high in comparison with holder's rigidity. ② Lock screw is loose. ③ Inappropriate tool tip clamping. ・Dust seizing. ・Designated insert mounting bolts are not used. ④ RPM is too high. ⑤ Abrasion or deposition of insert. ⑥ Tip nose R is too large against cutting feed. (Because of large thrust force.) ⑦ Scratches and/or dent on connecting portions of master shank and/or head (I.D., end face) ⑧ Weakened rigidity due to multiple use of extensions. ⑨ Fastening effectiveness not enough due to clamp bolt wear. ⑩ Deposition of chips, dust, rust and coolant residual on the connecting portions of master shank and head. ⑪ In the case of twin cutter head, runout is too large.	① ・Revision of cutting conditions (Decrease cutting resistance.) a : Higher rotation speed or lower feed rate (Approx. 20%) b : Lower cutting depth ・Shorter tool projection length ② Tighten lock screw. ③ ・Cleaning of insert seat. ・Use designated mounting bolts. ④ Reduce RPM. ⑤ ・Replacement of insert. ・When adhesion occurs, increase RPM. ⑥ Replace tip with one having smaller nose R. ⑦ Replace master shank and/or head. ⑧ ・Reduce number of extensions. ・Use reduction to increase master shank size to maintain rigidity required. ⑨ Replacement of clamp bolt. ⑩ Clean connecting portions of master shank and head. ⑪ Reduce runout.

5	Loosened clamp bolt and insert holder mounting bolt.	① Deposition of chips, dust, rust and coolant residual on the connecting portions of master shank and head. ② Bolt tightening is not enough.	① Clean connecting portions of master shank and head. ② Tighten bolt.
6	Coolant is not supplied.	① Mischoice of retention stud. ② Using head that is not compatible with coolant.	① Use designated retention stud for the machine (Coolant specification). ② Check type of head being used: some heads are not compatible with center-thru coolant.
7	Poor machining accuracy.	① Cutting resistance is too high in comparison with holder's rigidity. ② Lock screw is loose. ③ Inappropriate tool tip clamping. ・Dust seizing. ・Designated insert mounting bolts are not used. ④ RPM is too high. ⑤ Abrasion or deposition of insert. ⑥ Scratches and/or dent on connecting portions of master shank and/or head (I.D., end face) ⑦ Deposition of chips, dust, rust and coolant residual on the connecting portions of master shank and head. ⑧ In the case of twin cutter head, runout is too large.	① ・Revision of cutting conditions (Decrease cutting resistance.) a : Higher rotation speed or lower feed rate (Approx. 20%) b : Lower cutting depth ・Shorter tool projection length ② Tighten lock screw. ③ ・Cleaning of insert seat. ・Use designated mounting bolts. ④ Reduce RPM. ⑤ ・Replacement of insert. ・When adhesion occurs, increase RPM. ⑥ Replace master shank and/or head. ⑦ Clean connecting portions of master shank and head. ⑧ Reduce runout.