

# Troubleshooting

## (Stub taper)

	Details of the trouble	Cause	Pulled out of holder. Unable to attach fast to spindle or holder in case of MT shank.
1	Cannot mount tap adapter.	<p>① Wrong choice of adapter size.</p> <p>② Operating sleeve (on the tap adapter side) failure.</p>	<p>① Check adapter's size.</p> <p>②</p> <ul style="list-style-type: none"> <li>•Check to see if operating sleeve moves smoothly by hand.</li> <li>•Cleaning of operating sleeve I.D..</li> </ul>
2	Unable to mount to spindle.	<p>① Spindle dimension is different from standard dimension.</p> <p>② Seized or adhered chip and dust to holder shank, spindle I.D..</p> <p>③ Scratch or dent exists in spindle I.D. or holder shank.</p> <p>④ In the case of KD-NL, end face to end face dimension between spindle and finger bolt is longer than specified dimension.</p> <p>⑤ In the case of KH-A-NL, spindle collar thickness is larger than specified dimension.</p>	<p>① Check spindle dimension.</p> <p>② Cleaning of holder shank, spindle I.D..</p> <p>③</p> <ul style="list-style-type: none"> <li>•Replace holder or repair spindle.</li> <li>•Touching up of area in question (rubbing off with sand paper #1000 and above) Correction (grinding) by NT TOOL is not possible.</li> </ul> <p>④</p> <ul style="list-style-type: none"> <li>•Check spindle dimension.</li> <li>•Make spacer thicker to specified dimension.</li> </ul> <p>⑤ Repair spindle.</p>
3	Excessive play when mounting into spindle.	<p>① Spindle dimension is different from standard dimension.</p> <p>② In the case of KD-NL, end face to end face dimension between spindle and finger bolt is shorter than specified dimension.</p> <p>③ In the case of KH-A-NL, spindle collar thickness is smaller than specified dimension.</p> <p>④ Due to operating sleeve (on the spindle side) failure, spindle mounting is not properly done.</p> <p>⑤ In the cases of KH-A-NL, rubber damper is deteriorated.</p> <p>⑥ In the case of KD-NL, finger collet taper is worn.</p> <p>⑦ In the case of KD-NL, finger collets are broken.</p>	<p>① Check spindle dimension.</p> <p>② Check spindle dimension.</p> <ul style="list-style-type: none"> <li>•Make thickness of aspacer adjust to specified dimension.</li> </ul> <p>③ Repair spindle</p> <p>④</p> <ul style="list-style-type: none"> <li>•When installing, push operating sleeve down to bring it into position for secure mounting.</li> <li>•Cleaning of operating sleeve I.D..</li> </ul> <p>⑤ Ask NT for repair.</p> <p>⑥ Replacement of finger collet assembly.</p> <p>⑦ Replacement of finger collet assembly.</p>
4	Holder comes off from spindle.	<p>① In the case of KH-A-NL, due to operating sleeve (on the spindle side) failure, spindle mounting is not properly done.</p>	<p>①</p> <ul style="list-style-type: none"> <li>•When installing, push operating sleeve down to bring it into position for secure mounting.</li> <li>•Cleaning of operating sleeve I.D..</li> </ul>
5	Thread gauge (stop) can go through.	<p>① Lean threads because of excessive compression (Tapping chuck's compression works.)</p>	<p>①</p> <ul style="list-style-type: none"> <li>•Decrease feed rate more than tap pitch. (85-95% of tap pitch)</li> </ul>

		<p>② Tap does not cut into work smoothly.</p> <p>③ Stretch mechanism failure.</p> <p>④ Mischoice of tap.</p>	<p>• In case there is no improvement; Feed for forward movement : 85-95% Feed for backward movement :100% • Check feed mechanism of the machine.</p> <p>② • Larger chamfering for the entrance of prepared hole • Use tap with more threads for chamfering. (2.5 threads and more)</p> <p>③ Extend it by hand and see if it returns to where it has been extended from.</p> <p>④ • Tapping chuck with length compensation is not suitable for synchro tap (eccentric relief). • Use normal tap (concentric relief) which has self-advancing action.</p>
6	Thread gauge (through) cannot go through.	<p>① Warpage of burr has been generated at the entrance of tap hole.</p> <p>② Damage at the entrance of tap hole.</p> <p>③ Tap wear.</p>	<p>① • Return timing is premature (before tap is pulled out) → Revision of approach point Guidelines : maximum tension + 5mm • Too much tension → Increase feed rate. Must be lower than tap pitch.</p> <p>② • Misalignment between tap and prepared hole → Correction of misalignment • Chamfering at the hole entrance is too small. → Larger chamfering diameter</p> <p>③ Replacement of tap.</p>
7	Thread is too deep.	<p>① Increased preset length of tap. • Malfunction of tapping chuck.</p> <p>• Chucking error of tap adapter.</p> <p>• Malfunction of tap adapter with length adjustment (WEN).</p> <p>② Variation caused by large inertia of machine spindle.</p>	<p>① • Tapping chuck will not return to its original length. → Check tension/compression of tapping chuck.</p> <p>• Tap has been pulled out of tap adapter. → Check tap adapter's locking mechanism. (if tap cannot be pulled out by hand.)</p> <p>• Length adjustment screw is not back to the locking position (lowest position). → Check if adjustment screw will not turn after length adjustment</p> <p>② • Lower rotation speed (500rpm and below) • Check machine spindle's stationary position (in Z-axis).</p>
8	Breakage of tap at the hole entrance	<p>① Cutting by tap is difficult.</p>	<p>① • Enlarge chamfering diameter of prepared hole. • Use tap with more threads for chamfering.</p>
9	Breakage of tap in the middle	<p>① Machine feed rate is too high (fast) in relation to tap pitch.</p> <p>② Stretch amount is not enough due to too much length adjustment.</p> <p>③ Diameter of prepared hole is too small and excessive torque</p>	<p>① • Decrease feed rate more than tap pitch. (85-95% of tap pitch) • In case there is no improvement; Feed for forward movement : 85-95% Feed for backward movement :100% • Check feed mechanism of the machine.</p> <p>② In the case of stretch-free operation, decrease amount of extension to make room available for stretching.</p> <p>③ Optimization of prepared hole diameter (Tap maker's</p>

		is applied. ④ Incompatibility of tap adapter.	recommended value). ④ Tap adaptor with torque clutch (type WES) is not suitable for tapping chuck with compression 1mm and below.
10	Breakage of tap at the regular bottom.	① Tap hits the bottom of prepared hole and excessive torque is applied.  ② Point tap is used for blind-hole application where cutting chips are packed at the bottom of prepared hole.  ③ Increased preset length of tap •Malfunction of tapping chuck  •Chucking error of tap adaptor  •Malfunction of tap adaptor with length adjustment (WEN)  ④ Variation caused by large inertia of machine spindle.	① •Check NC program •Check the clearance between tap's chamfering threads and prepared hole. → If there is not enough clearance, decrease the number of chamfering threads. •Deepen prepared hole. •Shallow thread depth.  ② Use spiral tap to evacuate chips. (Point tap tends to push out chips forward.)  ③ •Tapping chuck will not return to its original length. → Check tension/compression of tapping chuck.  •Tap has been pulled out of tap adaptor. → Check the locking mechanism of tap adaptor. (See if tap cannot be pulled out by hand.)  •Length adjustment screw has not been returned to the locking position (lowest position). → Check if adjustment screw will not turn after adjustment is completed.  ④ •Lower rotation speed (500rpm and below) •Check the stationary position of machine spindle (in Z-axis).
11	Tap is pulled out.	① Tap is being pulled by force exceeding tension resistance value of tap.  ② Deformation or breakage of steel balls in tap adaptor  ③ Ball locking mechanism of tap adaptor does not work (in the case of carbide tap)	① • Increase feed per rotation. (must be less than tap pitch.) •Return timing is premature. → Approach point should be distanced. (Guidelines: Tapping chuck's maximum tension+5mm)  ② Ask NT for repair.  ③ Use collet type tap adaptor.
12	Stretch mechanism does not operate smoothly.	① Chips or dust on sliding surface.	① Cleaning of holder.
13	Cannot adjust length.	① In the case of KH-A-NL, hexagon hole is worn.	① •Ask NT for repair. •To adjust length, turn while pushing the hexagon hole down.
14	Holder does not come off from spindle.	① Deposition of rust and/or adhered coolant residual.  ② In the case of KH-A-NL, operating sleeve (on the spindle side) failure.	① Cleaning of spindle and holder shank.  ② Cleaning of operating sleeve I.D..