

NIKKEN Tap Collets must be used for NIKKEN Tapper Chuck.



- There are proper combination between Tap Collets and Tapper chucks, please use properly.
- The length of ZKG Tap Collets and ZKN Tap Collets are different, please check the length of Tap Collet before use.

1. Setting up of Tapper Chuck and Tap Collet

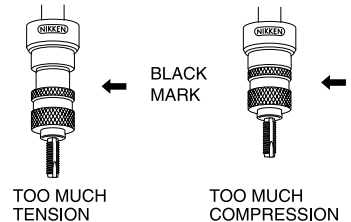
- 1). Insertion of Tap Collet.
Set the position of drive keys and slots then push Collet into Chuck.
- 2). Removal of Collet.
Pull down at the front of the Chuck then Collet is automatically released.

2. Float Mechanism of Tapper Chuck

NIKKEN Tapper Chucks such as Z,NZ,ZL,ZM,ZQ and ZR types have a built-in floating mechanism which creates tension and compression of the spindle body. This mechanism prevents double threading and also ensure the synchronized movement between pitch thread of tap and Z axis feed is smooth. Please use the floating system within its limitation.
(Please refer to guidance given in NC Total Tooling Catalogue.)



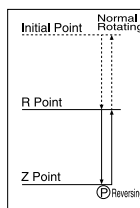
- 1). Too Much Tension
When tension movement exceeds the limitation, the black line will appear. In this case increase machine feed.
- 2). Too Much Compression
When machine feed is too fast for the tap thread pitch, the compression floating mechanism will work. The machine program should be modified to slow feed rate down.



- When the drilled hole diameter is too small (this is often caused by the drilling of the tough materials, extended drilling diameter is not large enough.), the tap will slip before the breakage due to torque limiter mechanism. In this case enlarge the drilled hole and do not adjust the torque setting.
- For a blind hole tapping, the tap might hit the bottom of the hole and the floating shaft will not extend any further, if the Z point is too close to the component. And the point of reversing the floating shaft could compress further than the extension, it may cause damage to the tapped hole. In this case, make the drilled hole deeper or restrict Z point at the higher position.
- When the R point is too close to the component, the spindle will moves upwards with the fully extended float mechanism at the reversing operation, and it might cause damage to the tapped hole as the tap may be still in the hole when the spindle try to return to the initial point at the rapid feed. In this case, give further distance between the R point and the component.
- In case of the tapping with Z type tapper chuck, since the Z Axis stroke will move upwards after the reversing operation starts at the Z point due to the machine tapping cycle features, it may cause damage to the tapped hole. In this case, input the dwell command at the Z point on the program in order to make the upward movement of Z Axis with the tapper chuck as its extended float mechanism.

3. NC Program of Tapping

- 1). NC Program of ZL type Auto. Depth Control Tapper Chuck
Please ensure an upward movement of Z Axis is programmed after spindle reversing at the bottom of the hole. If omitted the Z Axis stroke will move upwards before the reversing mechanism of Auto Depth Control works and it will cause the Tap to break. (Especially on Machining Centres using a Conversational NC Controller)



Program of ZL type tapper chuck

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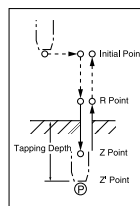
NO. 1 M03 S — ; Spindle Rotating
NO. 2 G00 X — Y — ; Initial Point
NO. 3 G00 Z — ; R Point
NO. 4 G01 Z — F — ; Z Point
NO. 5 *G04 P — ; Dwell
NO. 6 M05 ; Spindle Stop
NO. 7 *M04 ; Spindle Reversing
NO. 8 **G01 Z — ; R Point
NO. 9 M05 ; Spindle Stop
NO. 10 G00 Z — M03 ; Initial Point, Spindle Normal Rotating
    
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G04 P — : Threads are made only by Spindle Rotation during Dwell. Thus, exact depth is controlled.
M05 : Spindle stop.

M04 : First command Spindle Reversing. Then, upward movement of Z.
G01 Z — ;

- 2). NC Program for ZR type Auto Reversing Tapper Chuck

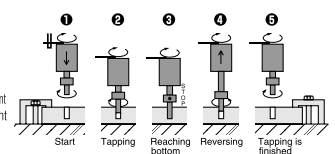
- ① As the ZR Tapper Chuck can be fed one block at a time, input the suitable values at the No.3 to No.5 with compensating the values.
- ② Estimate approximately 15mm for the distance between Z - Z'.
- ③ Set the value of F at No.4 as the tapping self-feeding speed × 0.9.
- ④ Set the value of F at No.6 as the tapping self-feeding speed × 1.1.



Program of ZR type tapper chuck

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NO. 1 M03 S — ; Spindle Rotating
NO. 2 G00 X — Y — ; Initial Point
NO. 3 Z — ; R Point
NO. 4 G01 Z — F — ; Z Point
NO. 5 G04 P — ; Dwell only tap going to Z'point
NO. 6 G01 Z — F — ; Only tap going to R point with reversing.
NO. 7 G00 Z — ;
    
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4. Storage

Please wipe/clean all dust/coolant and spray the oil to prevent from the rust at the storage.



— Quotation fee of the repair is always necessary whether repair or not.

This manual is for basic instruction and information for safety use of our product. Please contact with us for the further details.
Please note that we could not take a responsibility of the accidental damage on our product which is modified the specifications by the customer without our approval.

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