

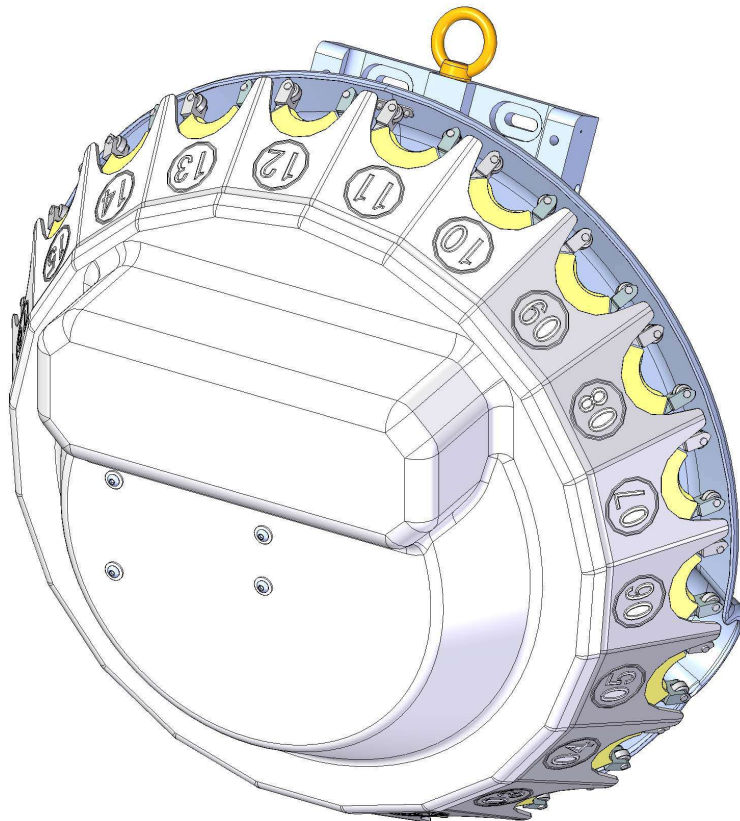


TDS PLUS 30 21T

夾臂式刀庫

ATC for tapping center

產品說明書
Operation manual



聖杰國際股份有限公司
SANJET INTERNATIONAL CO., LTD.

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3.1.1 換刀動作說明(示意)

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版本別及相關修訂紀錄 Version & relative revise record

版本別	修改內容	修改者	日期
三	更新外型圖及新增安全須知	付婷婷	2018/11/1

1.1 操作注意事項 Operational notes



ATTENTION

- 1、當機械設備開始運轉前，須配合其使用者參數調整設定值，若未調整到相符正確設定值，可能會導致機械設備運轉失去控制或發生故障。

Before operating machine, the parameter settings must be adjusted to the correct values, if not, it might lead to machine malfunction or lose control of machine.

- 2、機器開始運轉前，請確認是否可以隨時啟動緊急停機裝置。

Please make sure that emergency stop is functional at any time before running the machine.

- 3、上電時，請確保馬達心軸保持靜止，不會因機構慣性或其它因素而轉動。

Before powering up, make sure the motor shaft is static and not rotated by inertia or other factors.



- 1、當馬達運轉時，禁止接觸任何旋轉中的馬達零件，否則將造成人員受傷。

When the motor is running, all spinning components should not be approached. Otherwise, personnel might get hurt.



- 1、為避免意外事故，請先分開機械設備的聯軸器及皮帶等，使其處於單獨的狀態，再進行第一次試運轉。

To avoid any accidents, please separate the coupling and the belt of the machine and then conduct the first test run.

- 2、在馬達和機械設備連接運轉後，如果發生操作錯誤，則不僅會造成機械設備的損壞，亦可能導致人員受傷。

When motor connects to the machine and starts running, any misoperation could lead to the damage of the machine and injuries to personnel.

- 3、強烈建議:請先在無負載情況下，測試馬達是否正常運作，之後再將負載連接上，以避免不必要的危險。

Strongly recommended: please test whether the motor operates normally without load first then load to avoid any danger.

- 4、運轉中，請不要觸摸伺服驅動器之散熱片，否則可能會因高溫而燙傷。

Please do not touch the cooling fin of the servo driver when it is running, or you might get burned by the high temperature.

1.2 禁止事項

Prohibited matter



- 1、禁止接觸伺服驅動器及馬達內部，否則將造成觸電。
Do not touch the interior of the servo driver and motor, otherwise the personnel would get an electric shock.
- 2、電源啟動時，禁止拆下驅動器面板，否則將造成觸電。
Do not disassemble the servo driver panel, otherwise personnel would get an electric shock or get hurt.
- 3、不得拆開馬達，否則將造成觸電或人員受傷。
Do not disassemble the motor, otherwise personnel would get an electric shock or get hurt.
- 4、不得在開啟電源情況下改變配線，否則可能造成觸電或人員受傷。
Do not change the wiring while the power is on, otherwise personnel would get an electric shock or get hurt.
- 5、合格之電機專業人員才可安裝、配線及修理保養伺服驅動器以及馬達。
Only qualified specialists can install, wire, repair, and maintain the servo driver and motor.

1.3 操作者與維修者的資格界定

Operator and maintainer qualifications

1. 機構組裝人員 Institution assembler

操作者需詳讀說明書或經由原廠針對組裝流程訓練2個月。
Operator must read the instructions in detail or be trained for 2 months by original manufacturer for assembly process.

2. 電機操作人員 Motor operator

操作者需詳讀說明書且經原廠訓練2個月，但不可更改電子零件內部設定。
Operator must read the instructions in detail or be trained for 2 months by original manufacturer. However, the internal settings of the electronic parts cannot be changed.

3. 機構維修人員 Mechanism maintenance staff

需具有操作者經驗達1年以上，且經原廠複訓維修技術。
One is required to have more than one-year experience as operator and repeated trained for maintain skill by original manufacturer.

4. 電機維修人員 Electrical maintenance staff

需具有操作者經驗達2年以上，且經原廠複訓維修技術；
維修前應再次與原廠確認內部設定及維修細項。
One is required to have more than two-year experience as operator and repeated trained for maintain skill by original manufacturer. Before maintenance, one should check again with internal settings and maintenance details with original manufacturer.



1.4 安全需知

1.4 Safety requirements

1.4.1 個人保護裝備說明 Personnel protection equipment

- 1、操作天車、堆高機時，需配帶安全帽。
When operating cranes and stackers, must wear a safety helmet.
- 2、使用侵入性油品時，需配帶防腐蝕手套。
When using invasive oils, wear anti-corrosion gloves.
- 3、機台進行加工時，需配帶護目鏡
Wear goggles when processing.

1.4.2 使用環境限制 Environmental restrictions

- 1、溫度須於0°C-45°C(-4°F-113°F)。
Temperature limit 0°C-45°C(-32°F-113°F)
- 2、機台運轉時，避免水氣、腐蝕性及可燃性氣體。
Avoid moisture, corrosive and flammable gases when the machine is in operation.
- 3、安裝地面須平整，避免加工時振盪導致精度異常。
The installation of the ground must be smooth to avoid oscillations during processing and result in abnormal accuracy.
- 4、機台不可直接接受日照。
Machines cannot take direct sunshine.
- 5、維修區域內，不可有阻礙電氣箱及護罩開關的危險。
In the maintenance area, there must be no danger of obstructing opening and closing the electrical box and the shield.
- 6、刀庫移動範圍內不可有阻礙。
There must be no obstacles within the scope of the magazine movement.

1.4.3 廢棄物處理方式 Waste treatment

- 1、油品—使用後油品，由專業收廢油水公司回收。
Oil products - After use, oil products are recovered by professional waste oil and water companies.
- 2、線材—不堪使用的線材，由專業回收公司回收。
Wire - Unusable wire, recycled by professional recycling companies.
- 3、零件—故障或不合規定，由原廠收回。
Parts - Faults or Irregularities, recovered from the Factory.

2.1 產品內容 Contents



TDS PLUS 30
21T 夾臂式刀庫
TDS PLUS 30 Tapping Center

*請在安裝使用本產品前, 確認下列配件是否齊全。

Please confirm all component are completed before installing the tool magazine.

*若發現有短少或損壞之情形, 請與供應商聯絡, 我們會儘速幫您處理, 謝謝!

If it is short of components or breakdown, please contact your dealer.
We will serve you as soon as possible. Thank you!

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30#21T夾臂式刀庫 ATC for tapping center	說明書 Operation manual	彈簧拉座 Spring pull seat
數量: 1台 Q'ty : one set	數量: 1本 Q'ty : one copy	數量: 1座 Q'ty : one seat
		
拉片式彈簧 Spring-zipper pulls	2分伸縮器 1/4 Turnbuckles	16*10*100L雙圓鍵 Double rounded key
數量: 1個 Q'ty : one unit	數量: 1個 Q'ty : one unit	數量: 1顆 Q'ty : one pc
		
T3B-A5-S 刀夾組 T3B-A5-S Clipper	伺服驅動器(外附件) Servo actuator (External accessory)	CNC控制連接線(外附件) Connection wires for CNC control (External accessory)
數量: 1組 Q'ty : one set	數量: 1台 Q'ty : one set	數量: 1組 Q'ty : one set

刀庫基本規格表 TDS30 Specification for tool magazine

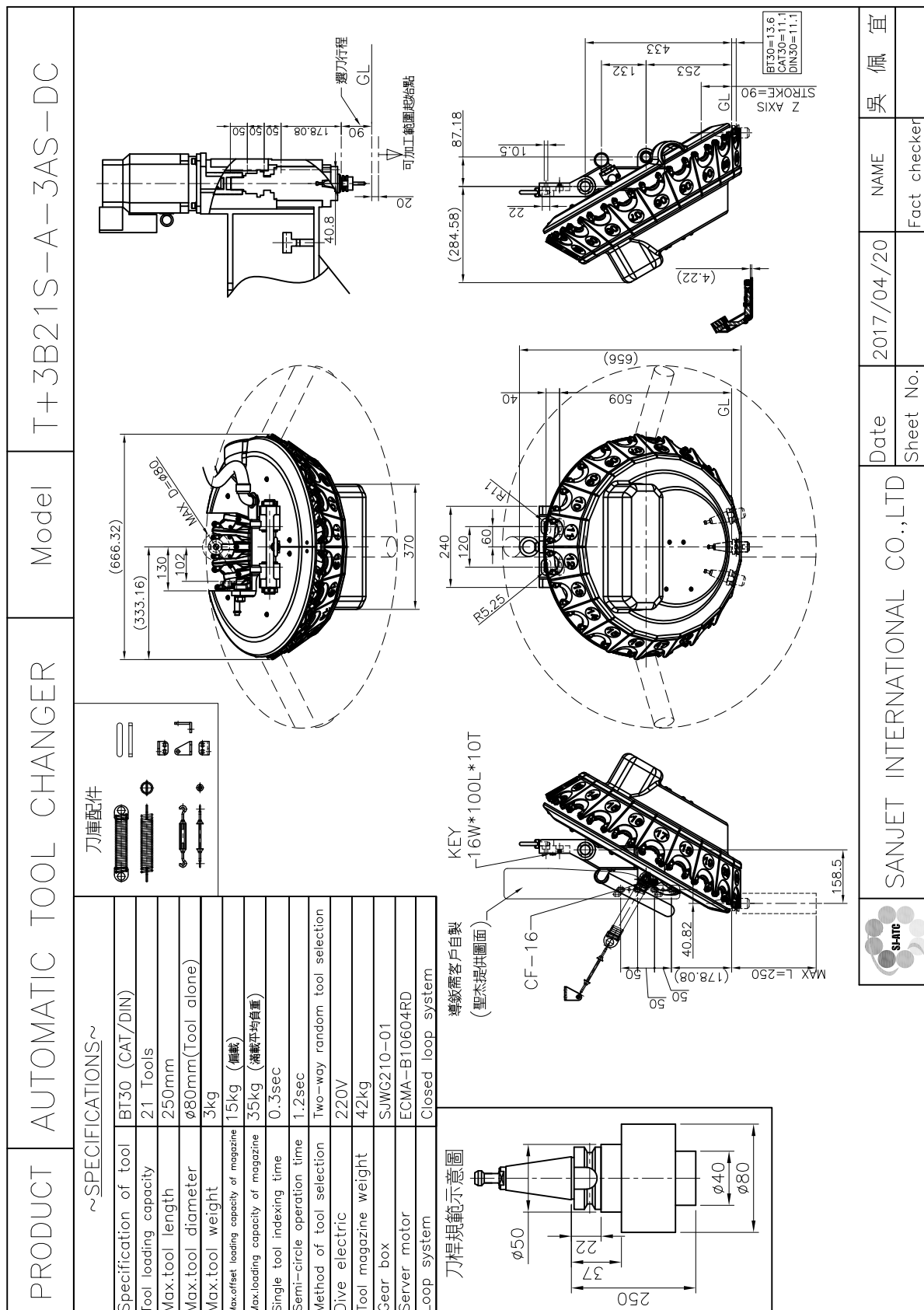
項次 NO.	項目及描述 Item	規格 Specifications
1	刀位數量 Tool loading capacity	21
2	刀具規格 Specification of tool	BT30
3	最大刀長 Max. tool length	250mm
4	最大刀徑 Max. tool diameter	Ø80mm
5	最大刀重 Max. tool weight	3Kg
6	刀倉最大偏載 Max. offset loading capacity of magazine	15Kg
7	刀倉最大載重 Max. loading capacity of magazine	35Kg
8	單刀運行時間 Single tool indexing time	0.3 sec
9	刀盤運行方式 Tool disk running method	SANJET 伺服電機 SANJET servo motor

2.3 刀庫結構概觀 Overview of tool magazine structure



TDS PLUS 30
21T 夾臂式刀庫
TDS PLUS 30 Tapping Center

2.3.1 刀庫外型尺寸圖 (T+3B21S-A-3AS-DC) Contour dimension drawing for tool magazine



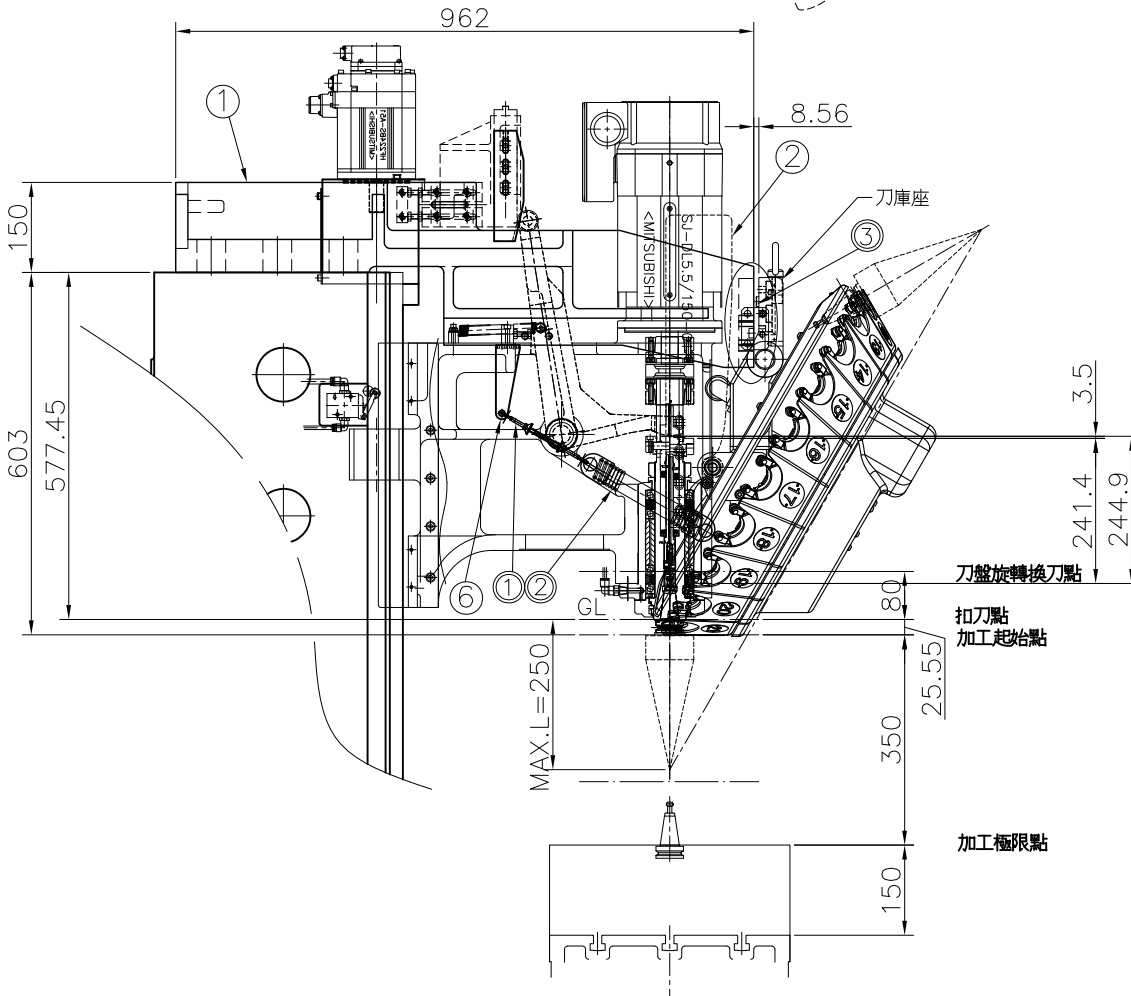
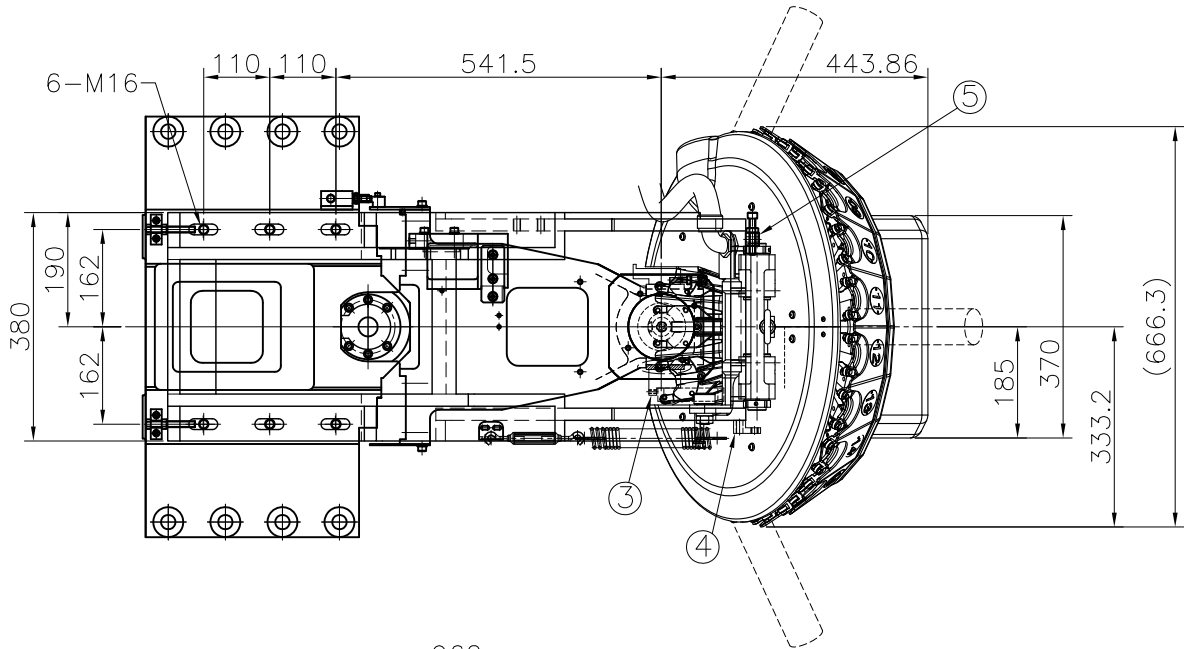
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2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.2 刀庫與工具機配置圖(範例)

Configuration drawing for tool magazine and machine centers(sample)

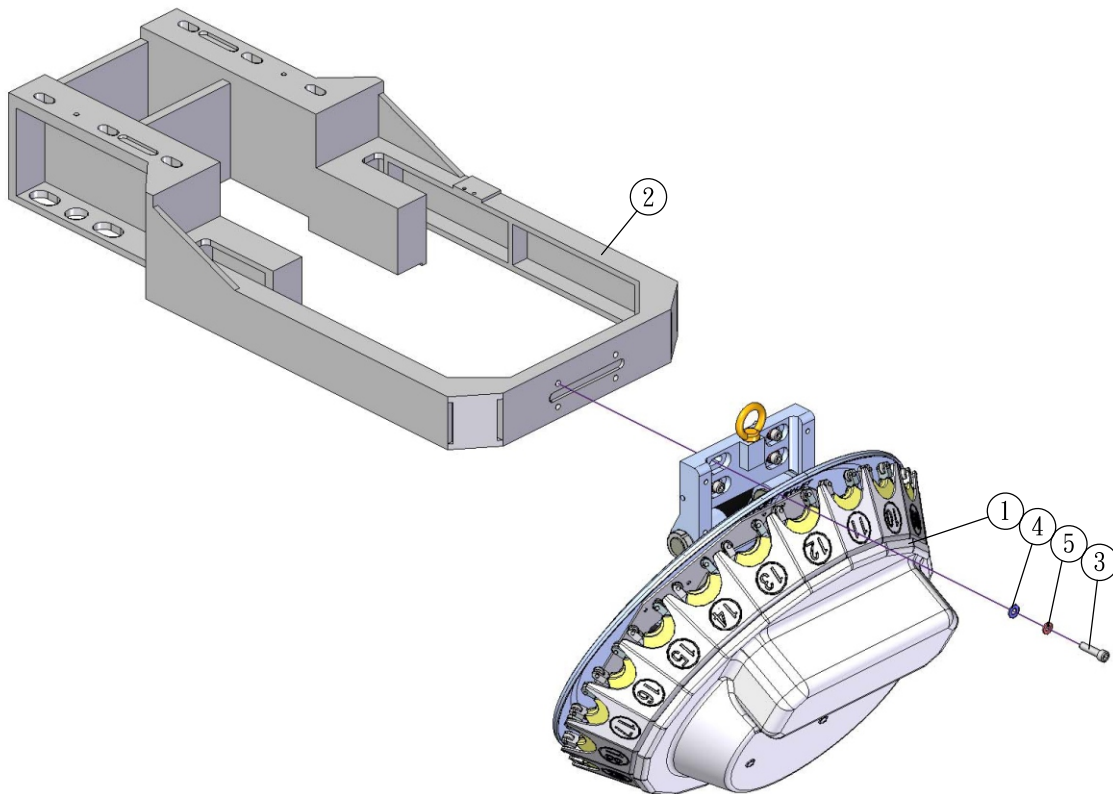


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2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.3 刀庫安裝分解圖/物料表

Assembly drawing/Parts list for install tool magazine



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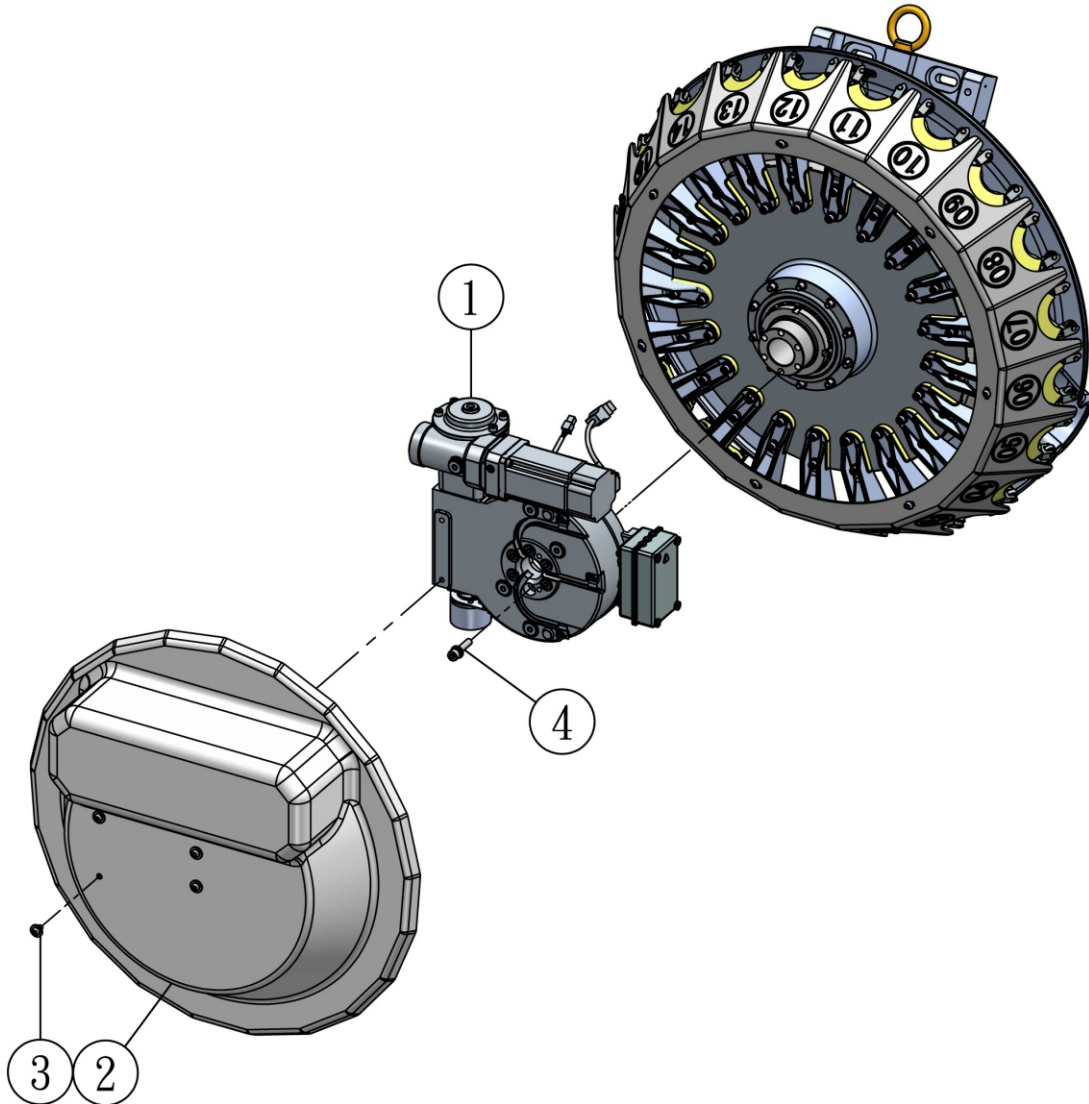
項次 Item	料號 Material NO.	品名 Name	數量 Q' TY
1	T+3B21S-A-3AS-DC	TDS+30 BT21(D7)刀庫 TDS+30 BT21 tool magazine	1
2	T2G149901	支架 Tool magazine shelf	1
3	MI10150040	M10*1.5P*40L CAP	4
4	W10	M10平墊圈 Washer	1
5	WS10	M10彈簧墊圈 Spring washer	4



2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.4-1 TDS+30-21T(外罩安裝)分解圖

TDS+30-21T Installation for cover assembly drawing



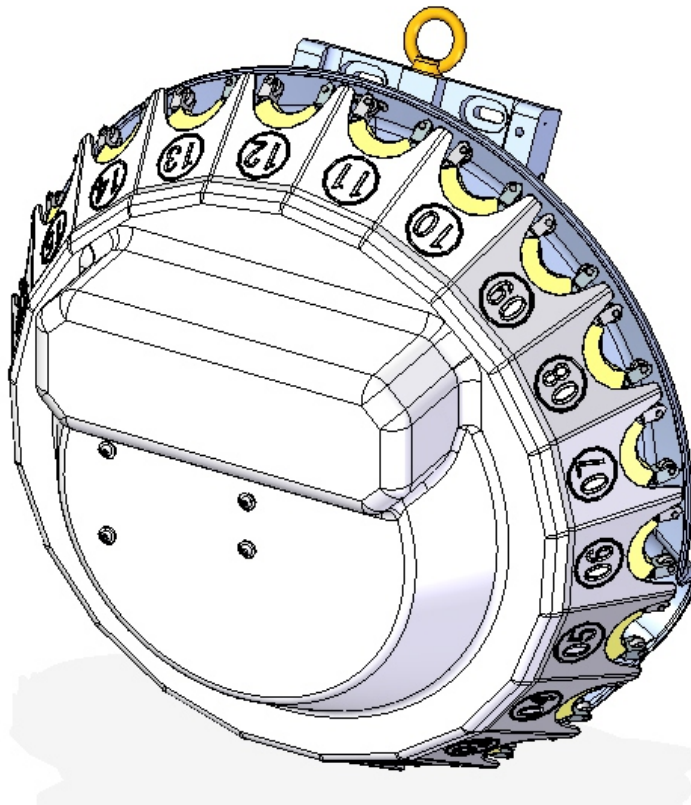


2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.4-1 TDS+30-21T(外罩安裝)物料表 TDS+30-21T Installation for cover parts list

項次 Item	料號 Material NO.	品名 Name	數量 Q' TY
1	T3C5-01	TDS+30 21T伺服驅動組 TDS+30 BT21 servo driving component	1
2	T3D101103	21T ABS外罩 Cover	1
3	MCW06100010-Z16	M6*10半圓頭螺栓+M6加大平墊圈 Semi-rounded bolt +Bigger washer	4
4	MISW08125035	M8*1.25P*35L 圓頭內六角螺栓+彈簧墊圈+平墊圈 CAP+ Spring washer+ washer	6

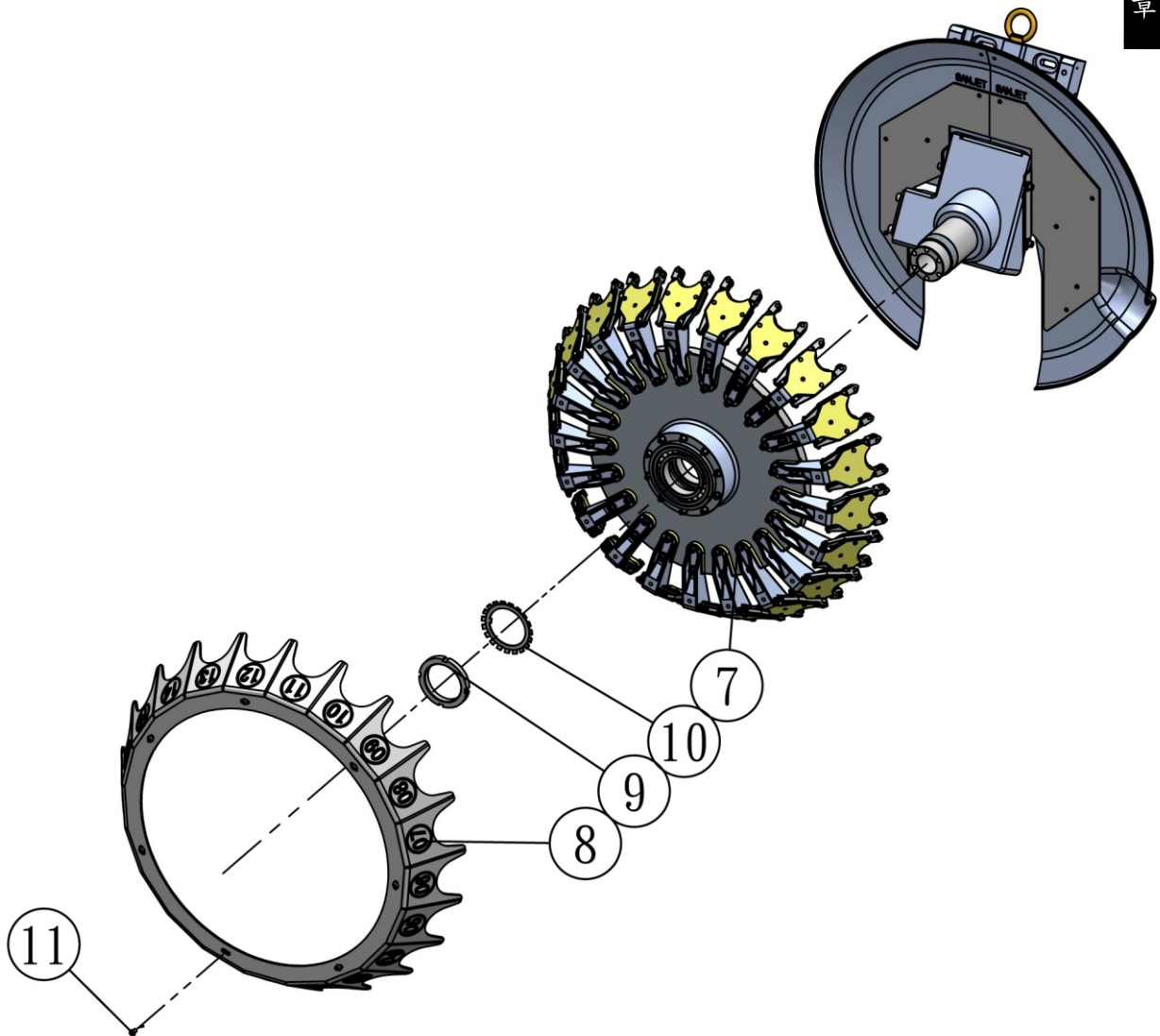
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2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.4-2 TDS+30-21T(刀盤安裝)分解圖

TDS+30-21T Installation for tool disk assembly drawing

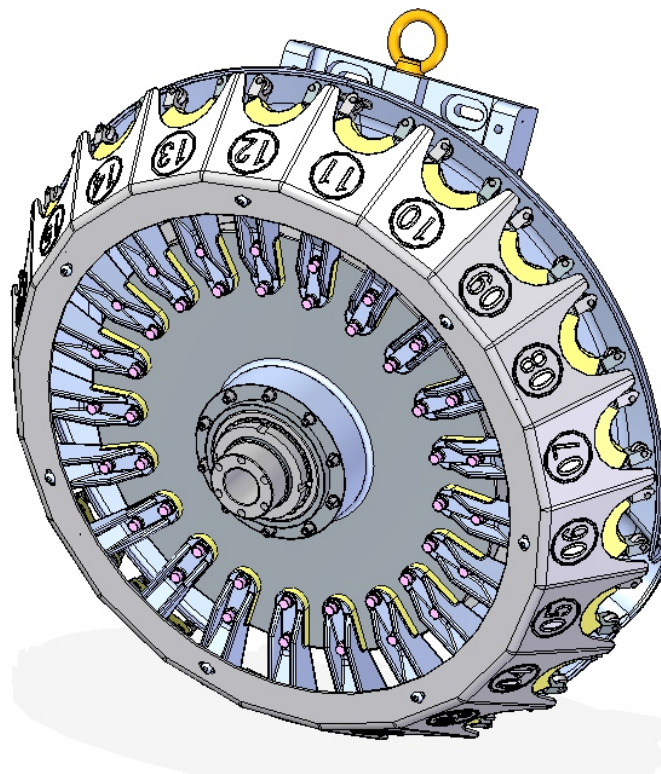


2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.4-2 TDS+30-21T(刀盤安裝)物料表 TDS+30-21T Installation for tool disk parts list

項次 Item	料號 Material NO.	品名 Name	數量 Q' TY
7	T3+A1-05	TDS+ BT21刀盤元件 Took disk component	1
8	T3D101203	21T ABS刀盤蓋 Tool disk cover	1
9	AN14	AN14 螺帽 AN nut	1
10	AW14	AW14 墊圈 AW washer	1
11	MR06100008	M6*1.0P*8L 半圓頭螺栓 Semi-rounded bolt	7

TDS+30-21T(刀盤安裝) TDS+30-21T Installation for tool disk

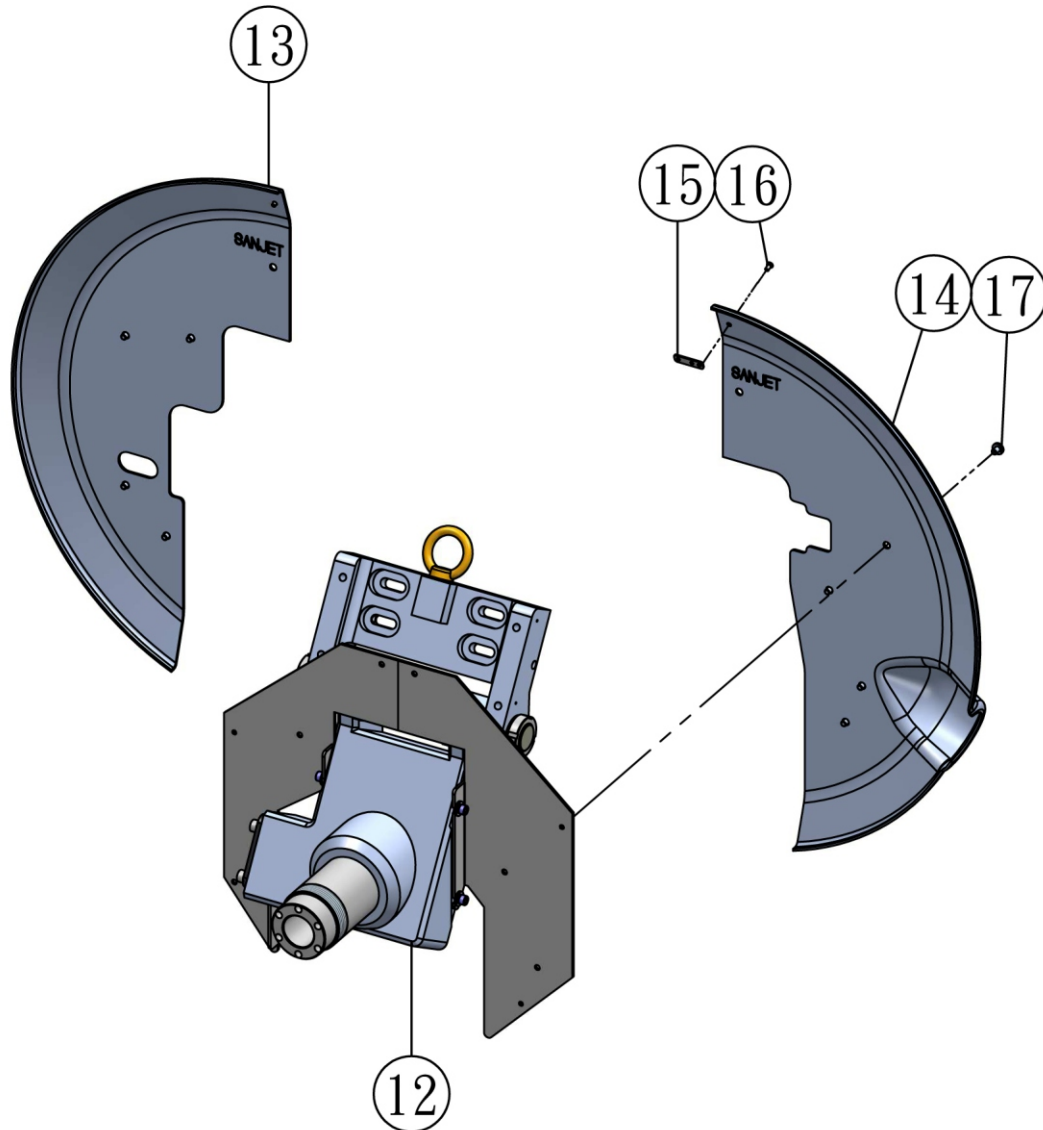




2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.4-3 TDS+30-21T(底鈹安裝)分解圖

TDS+30-21T Installation for plate seat assembly drawing





2.3 刀庫結構概觀 Overview of tool magazine structure

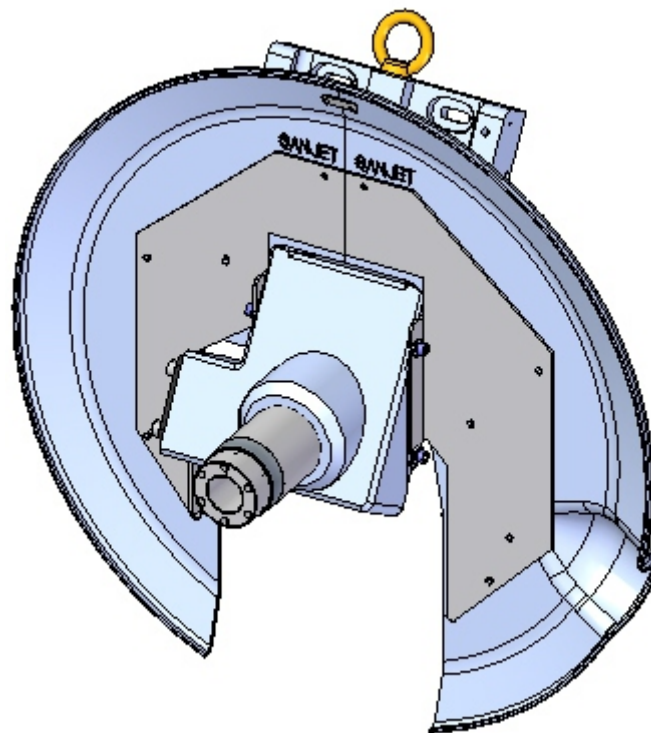
2.3.4-3 TDS+30-21T(底鈹安裝)物料表

TDS+30-21T Installation for plate seat parts list

項次 Item	料號 Material NO.	品名 Name	數量 Q' TY
12	T3+B1-01	TDS+30 21T機型元件 Model type component for 21T	1
13	T3D101307	21T ABS右底鈹 Right plate seat	1
14	T3D101404	21T ABS左底鈹 Left plate seat	1
15	BC3T1702	固定片 Fixed slice	1
16	NT04070005	M4*0.7*5L十字螺栓 Cross bolt	2
17	MR06100008	M6*1.0P*8L半圓頭螺栓 Semi-rounded bolt	10

TDS+30-21T(底鈹安裝)

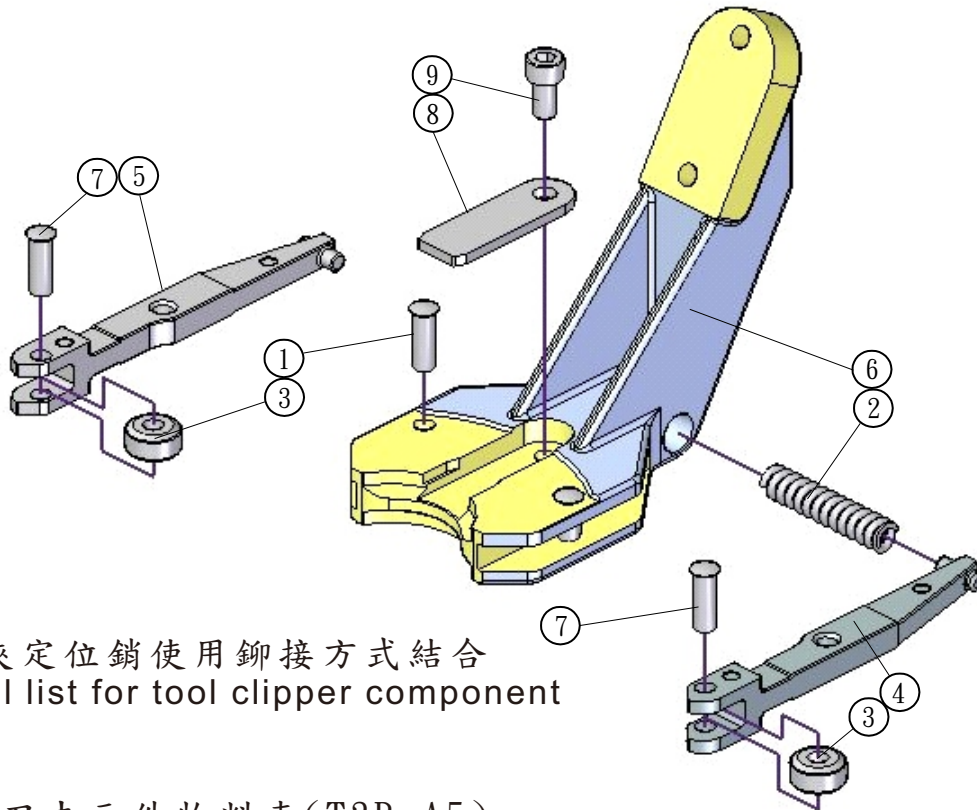
TDS+30-21T Installation for plate seat



2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.5 刀夾元件分解圖(T3B-A5)

Assembly drawing for tool clipper component(T3B-A5)



註:刀夾定位銷使用鉚接方式結合
Tool list for tool clipper component

2.3.5 刀夾元件物料表(T3B-A5)

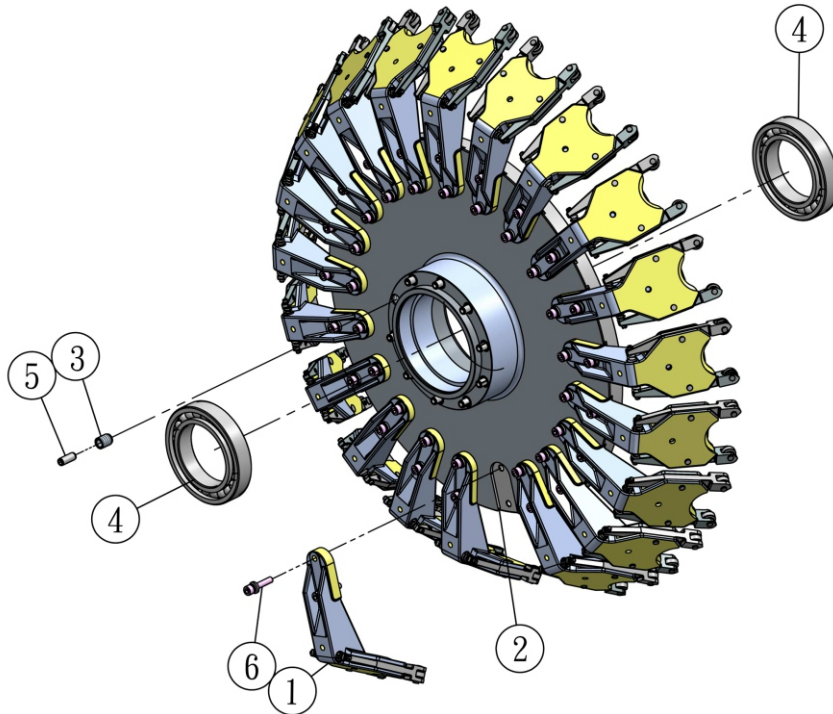
Parts list for tool clipper component(T3B-A5)

項次 Item	料號 Material NO.	品名 Name	數量 Q'TY
1	T1A100506	刀夾定位銷 Tool clipper position pin	2
2	T1A101301	制動彈簧 Driven spring	1
3	T1A101401	夾刀輪 Tool clipper wheel	2
4	T1A102005	TD 左刀夾 Left tool clipper	1
5	T1A102104	TD 右刀夾 Right tool clipper	1
6	T1A102204	TD 夾刀座 Tool clipper seat	1
7	T1A102501	夾刀輪軸 Clip wheel axle	2
8	LA0300502	定位鍵 Position key	1
9	MI06100012	M6*1.0P*12L CAP	1

2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.6 刀盤元件分解圖(T3+A1-05)

Assembly drawing for tool disk component(T3+A1-05)



2.3.6 刀盤元件物料表(T3+A1-05)

Parts list for tool disk component(T3+A1-05)

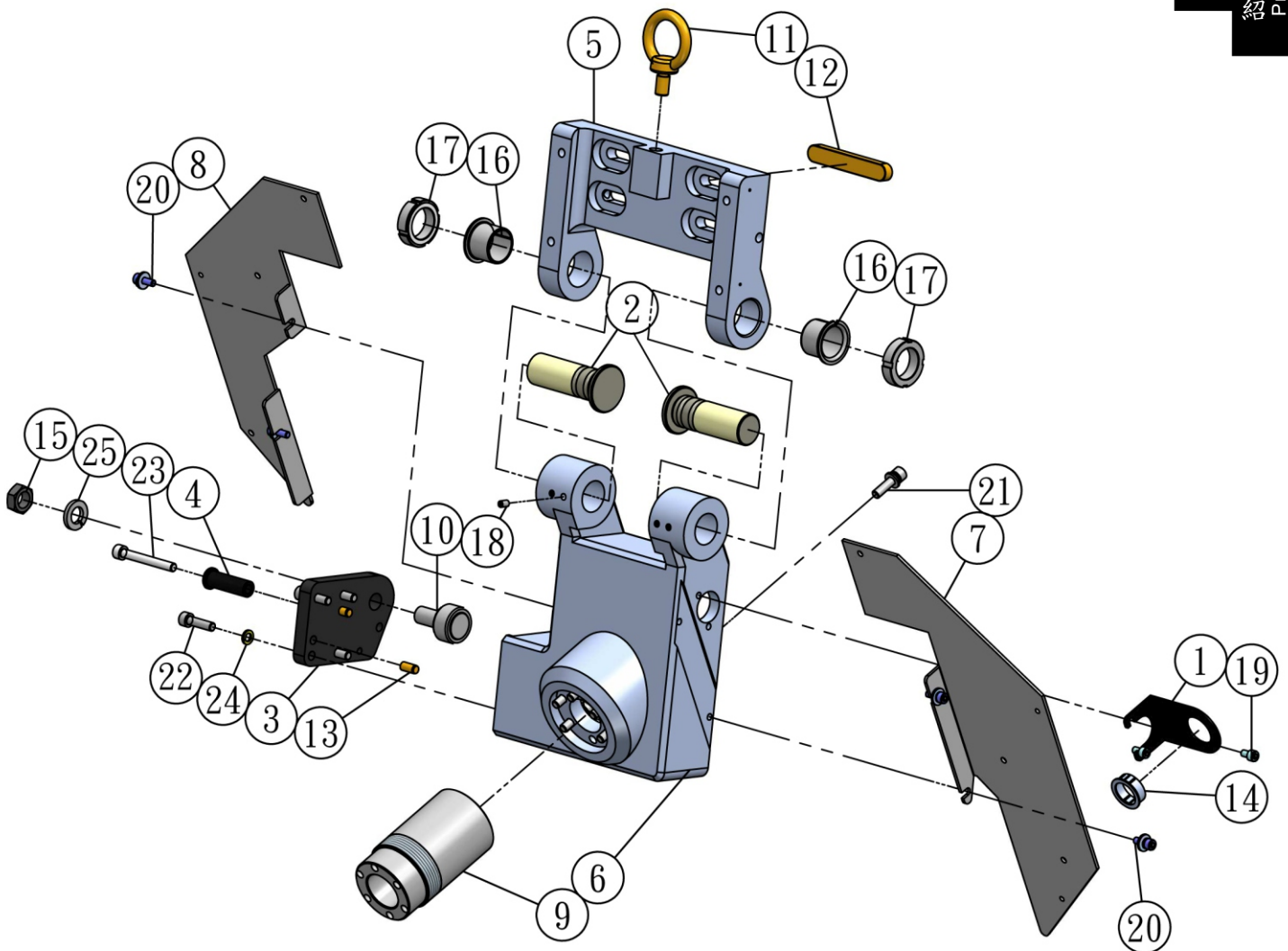
項次 Item	料號 Material NO.	品名 Name	數量 Q' TY
1	T3B-A8	30#BT刀夾組 Tool clipper set	21
2	T4A100501	TDS+21T刀盤 Tool disk	1
3	T4A100601	TDS+襯套 Bushing	10
4	BA6014	NO. 6014軸承 Bearing	2
5	SP0820	Ø8*20彈簧銷 spring pin	10
6	MISW06100030	M6*1.0P*30L 圓頭內六角螺栓+彈簧墊圈+平墊圈 CAP + spring washer + washer	42



2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.7 機型元件分解圖(T3+B1-01) Assembly drawing for model component(T3+B1-01)

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2.3 刀庫結構概觀 Overview of tool magazine structure

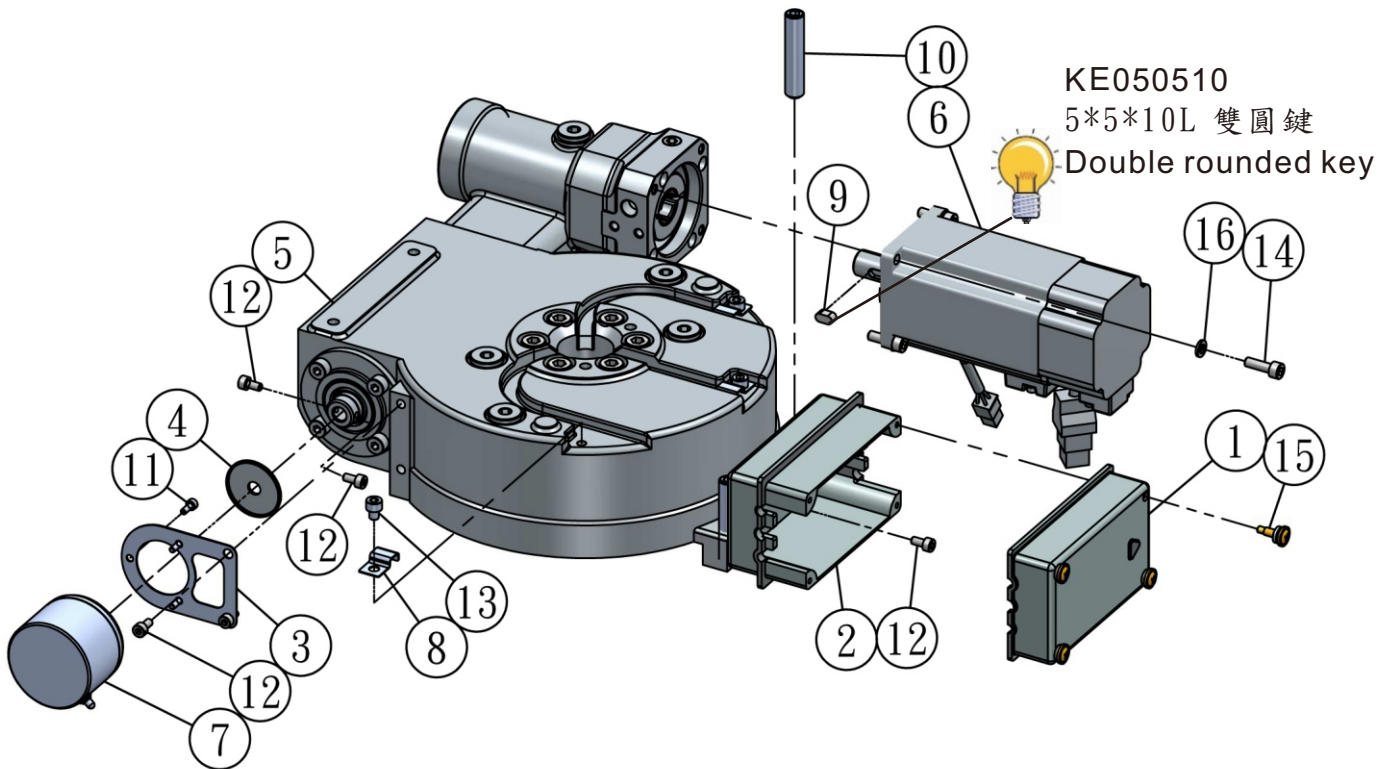
2.3.7 機型元件物料表(T3+B1-01) Parts list for model component(T3+B1-01)

項次 Item	料號 Material NO.	品名 Name	數量 Q' TY
1	T1D101103	新接頭座 New joint seat	1
2	T2B100107	刀庫心軸 Tool magazine shaft	2
3	T2B100304	滑輪架 Pulley shelf	1
4	T3B100401	彈簧桿套 Spring rod cover	1
5	T3B100518	SJ刀庫座 Tool magazine seat	1
6	T3B100607	21T(SJ)本體 Main body	1
7	T3D101705	21T ABS底板座A Plate seat A	1
8	T3D101805	21T ABS底板座B Plate seat B	1
9	T4B100101	TDS+支撐管 Supporting pipe	1
10	CF-16	CF-16凸輪傳動 CF-16 Bearing	1
11	FR12175	M12吊環 Ring	1
12	KE1610100	16*10*100L 雙圓鍵 Double rounded key	1
13	L7B102201	Ø8*18L 直銷 Pin	2
14	NB-2430	扣式護線環 Plug type wiring seal	1
15	M16150016	M16*1.5P*16L NUT	1
16	PFF-3025	自潤軸承(法蘭式)30*25 Lubricated bearing	2
17	YSRM3015	M30*1.5P 精密自鎖螺帽(精車) Nut	2
18	MG06100012	M6*1.0P*12L 棒尾止付螺栓 Set screw	4
19	MI06100010	M6*1.0P*10L CAP	2
20	MISW06100016-Z16	M6*1.0P*16L 圓頭內六角螺栓+彈簧墊圈+加大平墊圈(16*1.5T) CAP+ spring washer + bigger washer	4
21	MISW08125035	M8*1.25P*35L 圓頭內六角螺栓+彈簧墊圈+平墊圈 CAP + spring washer + washer	6
22	MI08125030	M8*1.25P*30L CAP	4
23	MI08125065	M8*1.25P*65L CAP	1
24	WS08	M8 彈簧墊圈 Spring washer	4
25	WS16	M16 彈簧墊圈 Spring washer	1



2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.8 驅動元件分解圖(T3C5-01) Assembly drawing for driving component(T3C5-01)

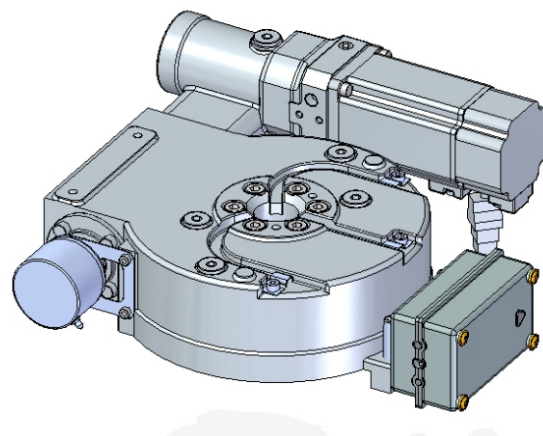


2.3 刀庫結構概觀 Overview of tool magazine structure

2.3.8 驅動元件物料表(T3C5-01) Parts list for driving component(T3C5-01)

項次 Item	料號 Material NO.	品名 Name	數量 Q' TY
1	T2C101303	伺服線盒蓋 Servo wire box cover	1
2	T2C101403	伺服線盒 Servo wire box	1
3	T4C100402	HS5編碼器固定板 Encoder fixed plate B	1
4	T4C100601	ED刮環 Scraping ring	1
5	T4C100803	TDS+ 21T 減速機 Reducer	1
6	T4C100901	400W伺服馬達 400W servo motor	1
7	T4C101001	編碼器 Encoder	1
8	ER4L2E	管夾(4mm兩管) pipe clamping	3
9	KE050510	5*5*10L 雙圓鍵 Double rounded key	1
10	MP10150050	M10*1.5P*50L 平頭止付螺栓 Socket blot	2
11	MI03050008	M3*0.5P*8L CAP	3
12	MI04070008	M4*0.7P*8L CAP	6
13	MI05080006	M5*0.8P*6L CAP	3
14	MI05080016	M5*0.8P*16L CAP	4
15	MSW0800001	8#*1"L大扁十字頭不銹鋼鑽尾螺栓+PC華司 Crosshed self drilling bolt+PC washer	4
16	WS05	M5 彈簧墊圈 Spring washer	4

驅動元件(T3C5-01) Driving component(T3C5-01)



3.1 換刀動作及電控元件動作說明 The change tool and the circuit control sheet

3.1.1 換刀動作說明(示意) Specification for tool changing motion

1

欲換刀之刀夾必定是無刀狀態
It is the condition without tool in order to change tool clipper.

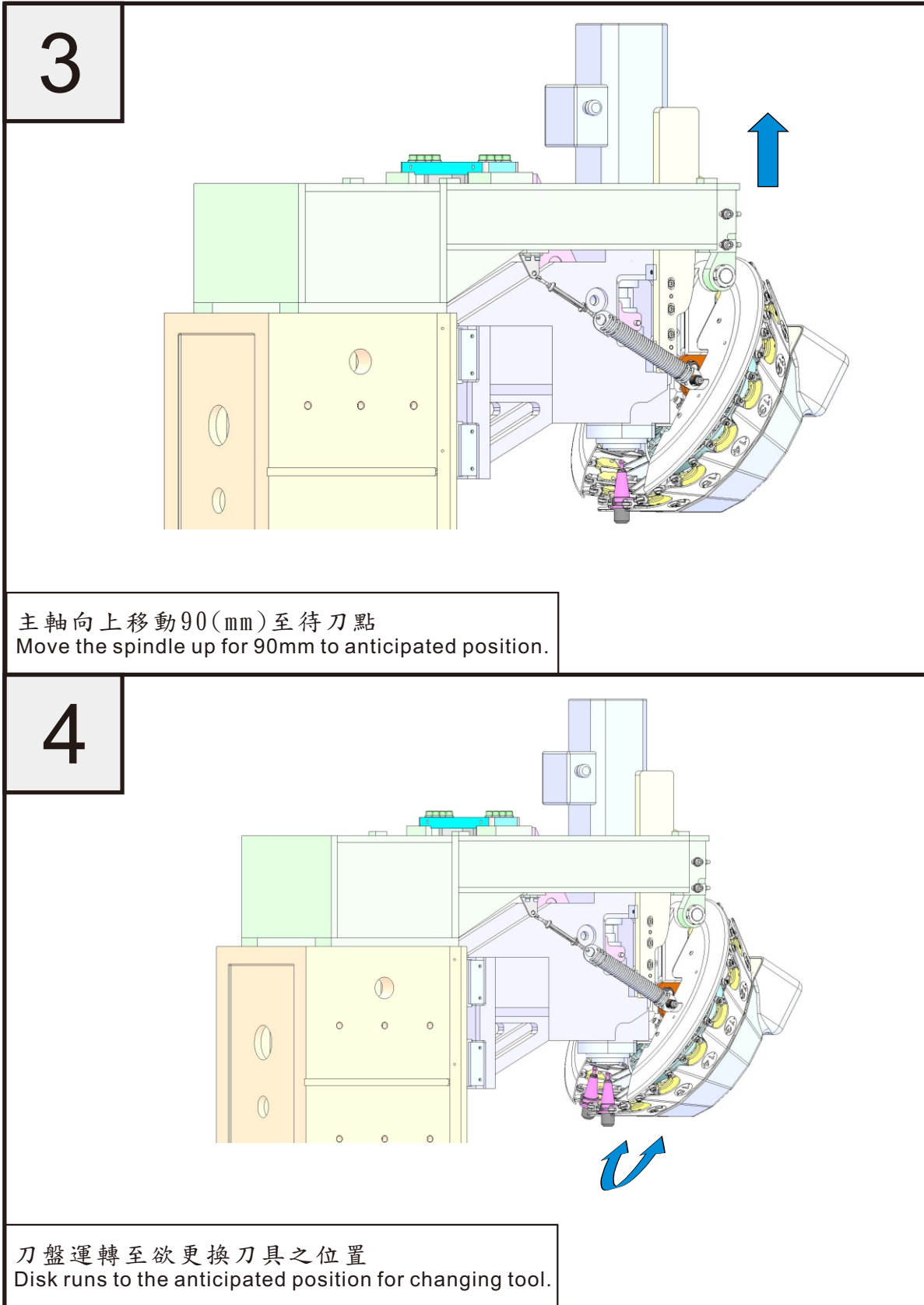
主軸移至換刀點, 刀盤移至主軸取刀。
Move spindle to the tool changing point and move disk to the spindle to clamp tool.

2

刀盤移動到主軸位置, 進行夾取刀動作
Move the disk to the spindle position and proceed to clamp tool.

3.1 換刀動作及電控元件動作說明 The change tool and the circuit control sheet

3.1.1 換刀動作說明(示意) Specification for tool changing motion

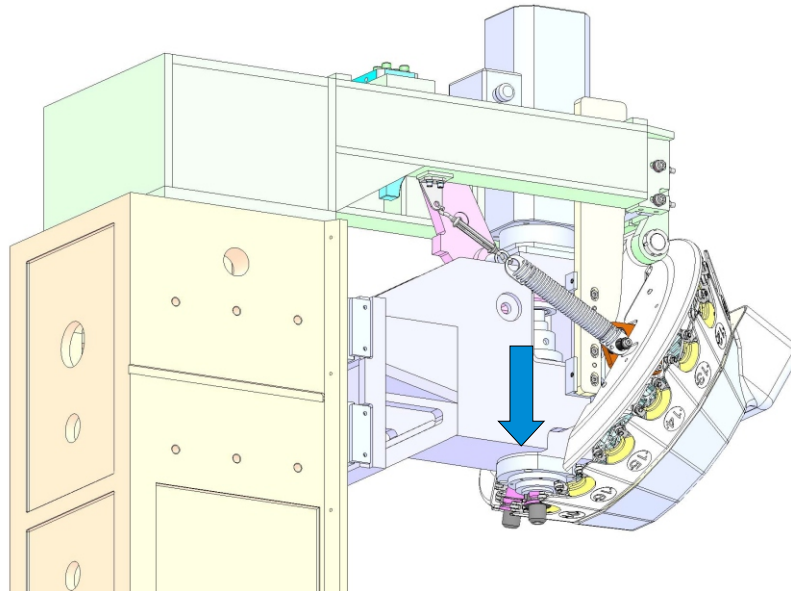


第參章
CH.3
電路控制
Circuit Control

3.1 換刀動作及電控元件動作說明 The change tool and the circuit control sheet

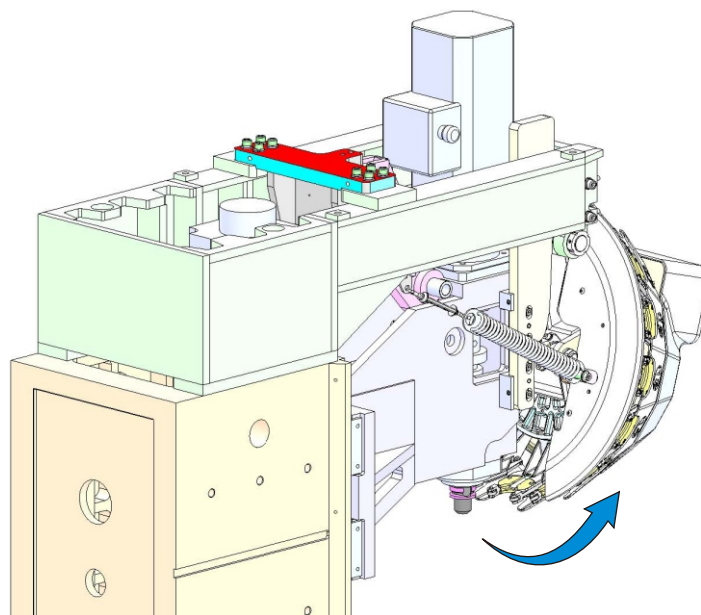
3.1.1 換刀動作說明(示意) Specification for tool changing motion

5



主軸下降90(mm)至取刀位置
Move the spindle down for 90mm to the clamping position.

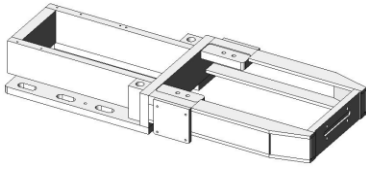
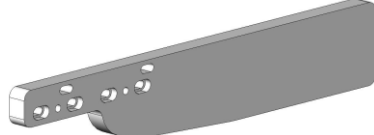
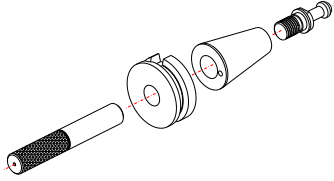
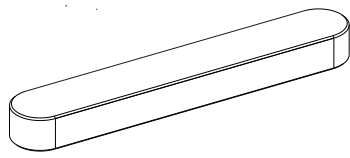
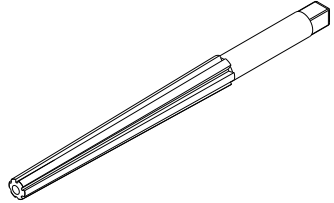
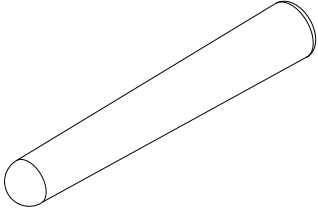
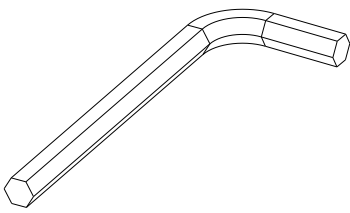
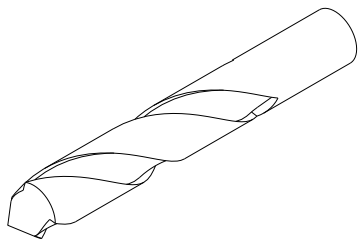
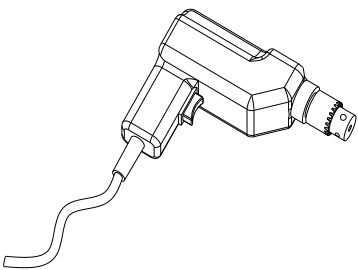
6



刀盤回到原位
Disk runs back to the original position.

4.1 準備工具及零件 Preparation of tools and parts

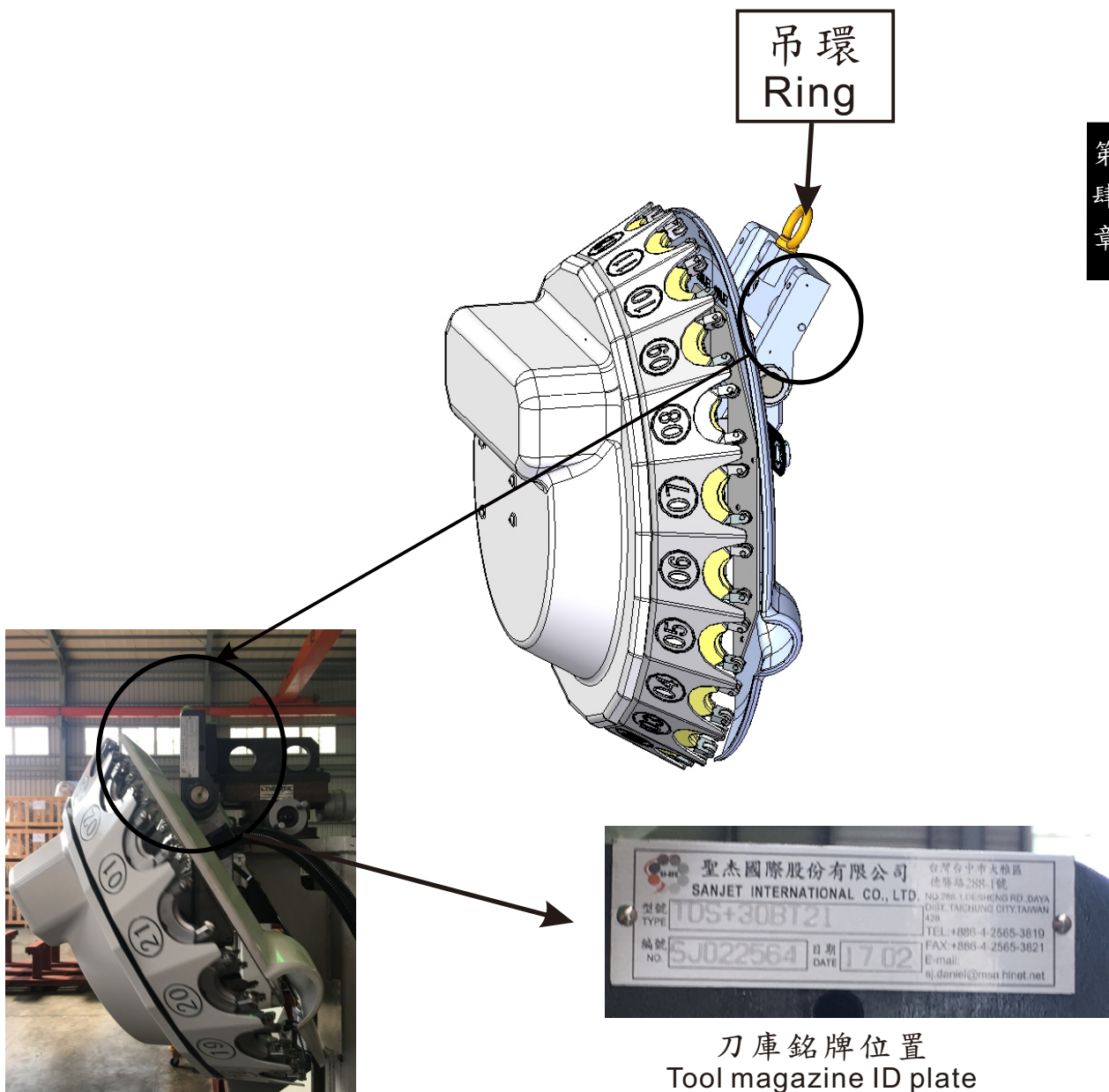
*檢查零件用具是否齊全
Check to see if all parts are complete

 <p>*客戶自製 Self-prepared by customer</p>		 <p>*客戶自製 Self-prepared by customer</p>			
1	刀庫架 Tool magazine shelf	2	導板 Guiding plate	3	校刀模具 Tool calibration fixtures
					
4	雙圓鍵 Double rounded key	5	1/50 taper絞刀 1/50 Taper knife	6	1/50 40L斜銷 1/50 40L Pin
					
7	B14內六角扳手 B14 Wrench	8	Ø8鑽頭 Ø8 Drilling	9	手提電鑽 Electric drill



4.2 安裝前注意事項 Notice before installation

1. 檢查本配件所附零件是否齊全。
Please check to see if all parts are complete.
2. 檢查本配件外觀零件是否破損凹陷。
Please check all external parts if there is any flaw.
3. 檢查螺栓(螺帽)是否鬆脫。
Please check whether bolts or nuts are loose.
4. 安裝完後務必要將吊環取下。
Take out the ring after Installation.
5. 刀庫銘牌位置說明(如下圖):
Tool magazine ID plate location photo as below:

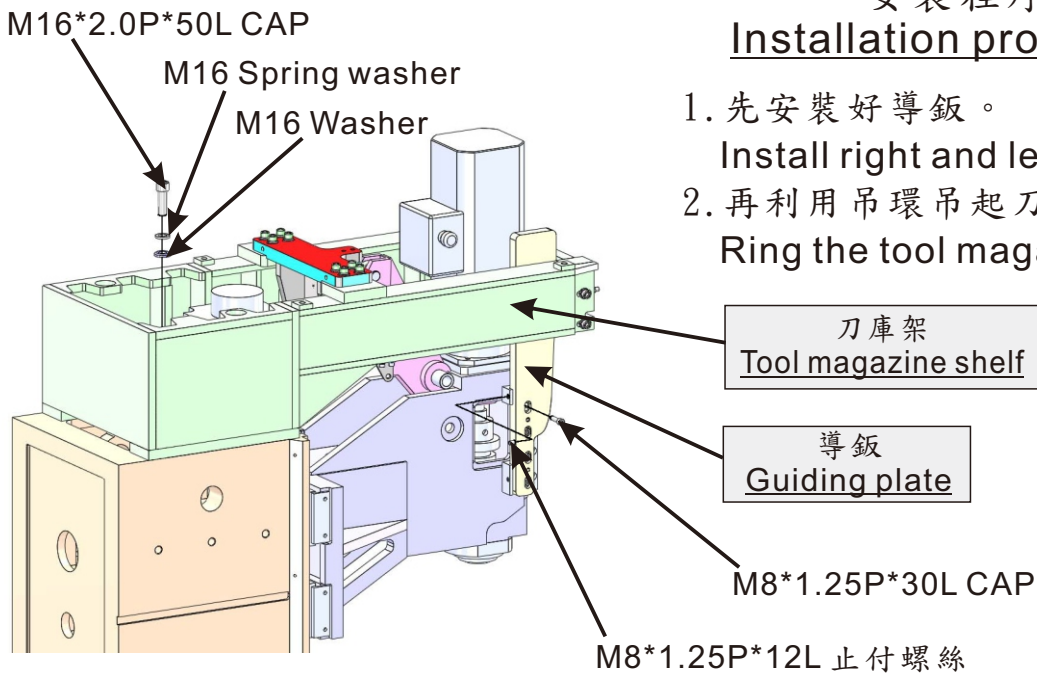


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裝置資訊
Installation

刀庫銘牌位置
Tool magazine ID plate

4.3 刀庫架與導板安裝 Installation for rack and guiding plate

4.3.1 刀庫架及導板安裝 (螺栓/墊圈規格依實際機型搭配) Installation for rack and guiding plate (bolt and washer model is according to the actual machine)

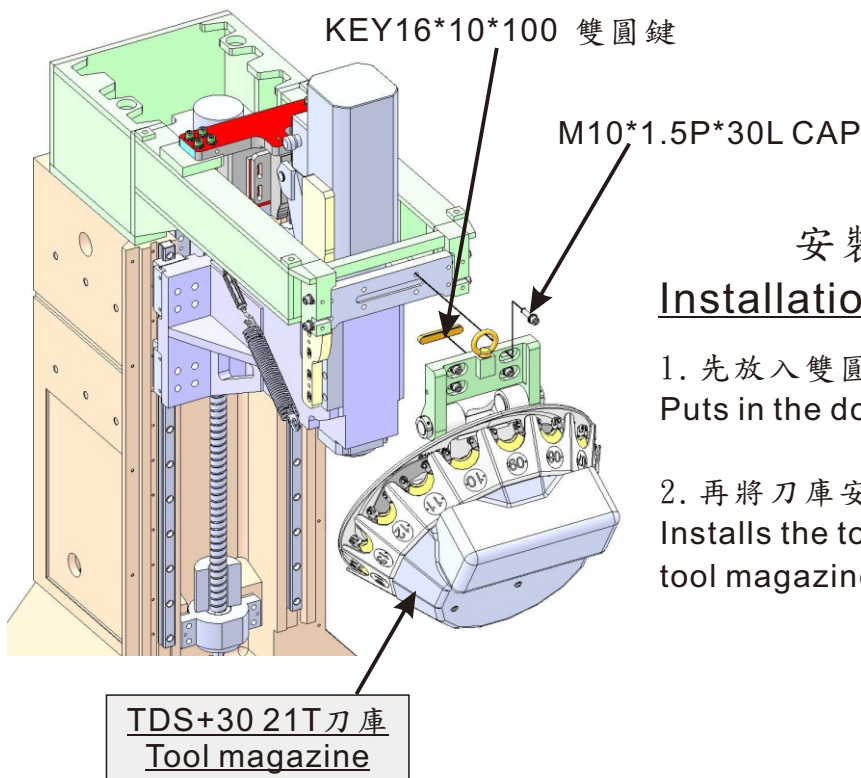


安裝程序

Installation procedure

1. 先安裝好導板。
Install right and left guiding plate.
2. 再利用吊環吊起刀庫架以便安裝。
Ring the tool magazine to install.

4.3.2 刀庫安裝 Installation for tool magazine



安裝程序

Installation procedure

1. 先放入雙圓鍵
Puts in the double rounded key first.
2. 再將刀庫安裝於刀庫架上
Installs the tool magazine on tool magazine shelf.

4.4 刀庫調整 Adjustment for tool magazine

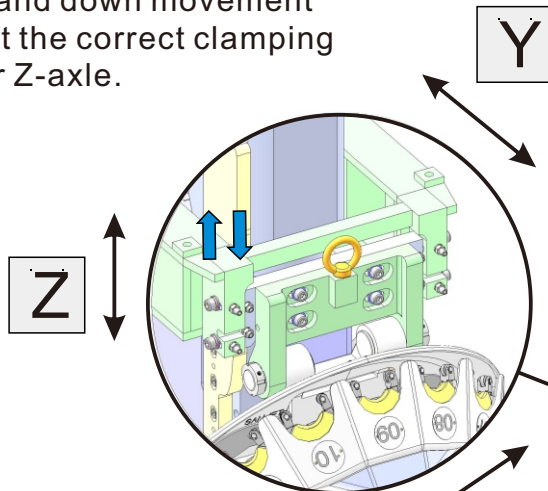
4.4.1 刀庫架/導板取刀方向調整(範例參考) Adjustment for clamping direction of tool magazine shelf and guiding plate (Reference example)

1. 導板-Z軸方向調整
Guiding plate-adjust
direction for Z-axis.

3. 刀庫架-Y軸方向調整
Tool magazine shelf-adjust the
direction of Y-axis.

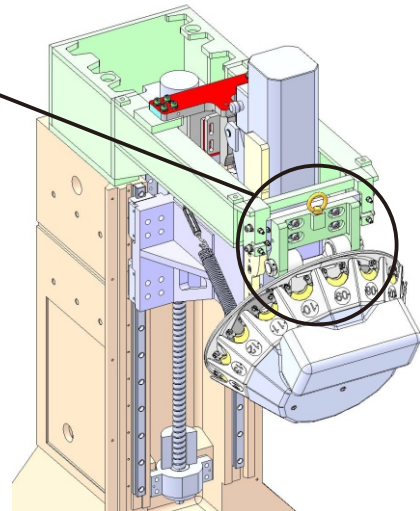
1-2. 利用上下位移, 調整Z軸正確扣刀點。
Use up and down movement
to adjust the correct clamping
point for Z-axis.

3-2. 利用調整之螺栓, 調整Y軸正確扣刀點。
Use bolt of adjustable block to
adjust the correct clamping point
of Y-axis.

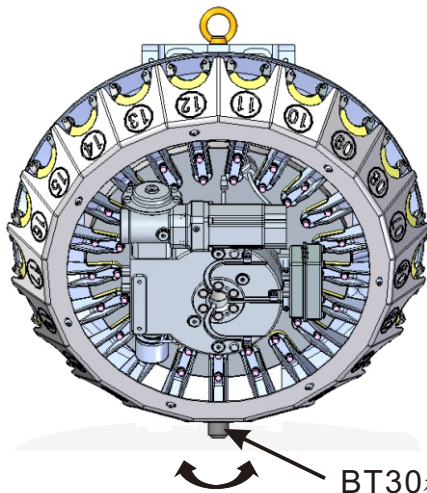


2. 刀庫架-X軸方向調整
Tool magazine shelf-adjust
the direction of X-axis.

2-2. 利用調整之螺栓, 調整X軸正確扣刀點。
Use bolt of adjustable block to
adjust the correct clamping point
of X-axis.



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BT30校刀模組
Tool-calibration fixtures set

使用驅動器設定為微調模式
微調刀盤, 使刀夾平面與主軸端面平行
Using the drive to set to fine tuning mode,
fine tuning the tool disk to make the tool holder
in parallel with the end-face of the spinder.

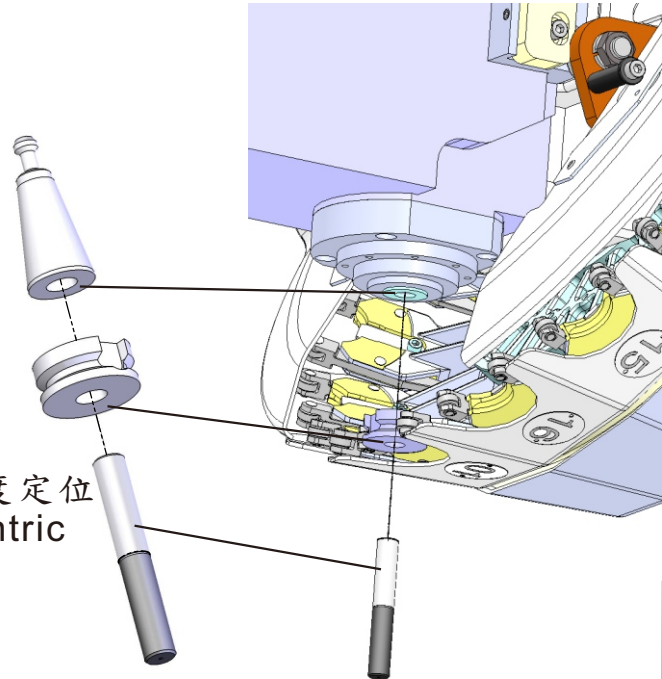
4.4 刀庫調整 Adjustment for tool magazine

4.4.2 校刀治具組使用(範例參考) Usage for tool-calibration fixtures(Reference example)

1. 置於主軸內
Insert it into the spindle.

2. 置於刀夾上
Put it on the tool clipper.

3. 用來確認刀臂與主軸的同心度定位
It is used to position the concentric degree of arm and spindle.



先將刀盤至取刀位置，
關閉工具機電源
Put the disk on the clamping tool
position and turn off the power.



裝置校刀治具-1
於工具機主軸內
Install tool-calibration fixtures 1 to
the spindle of machine center.



裝置校刀治具-2
於工具機主軸同軸刀盤刀夾上
Install tool-calibration fixtures-2
on the tool clipper of the same
spindle for machine center.

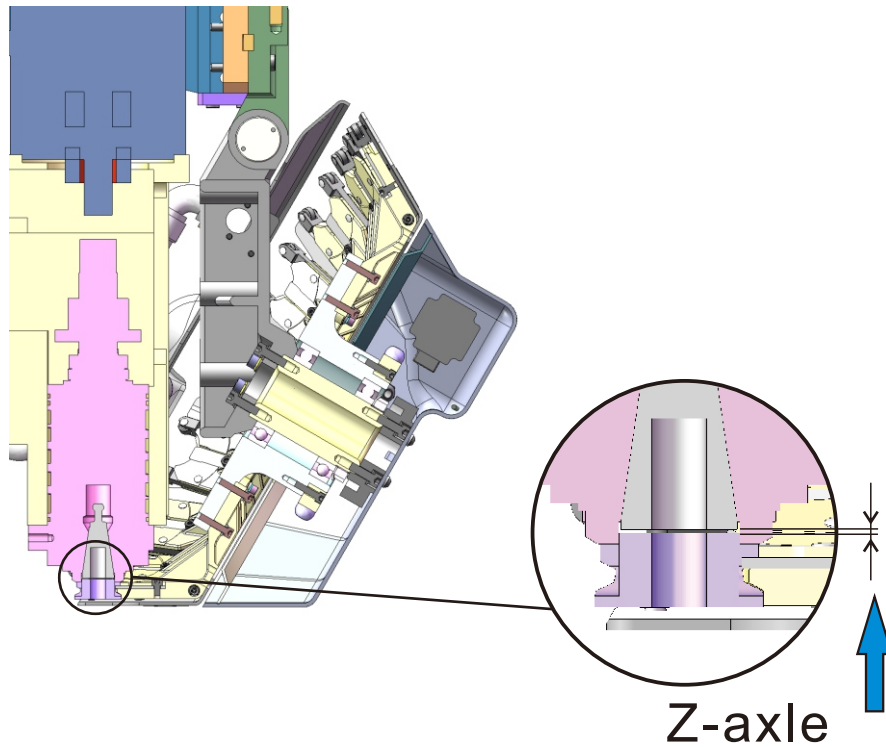


使用校刀治具-3
確認刀夾與主軸是否有同心
Use tool-calibration fixtures-3
check if it is concentric.

4.4 刀庫調整 Adjustment for tool magazine

4.4.3 主軸/刀盤換刀點鬆刀位置檢查(範例參考)

Check the tool loosening position of spindle and tool disk(Reference example)



Z軸:0.03~0.05mm

接步驟 3.4.2
Follow step 3.4.2



利用校刀治具置於工具機主軸
Put the tool-calibration fixtures
on the spindle of machine center.



1. 利用標準刀桿再確認刀盤與主軸同心
Use tool taper to check if the tool disk is
concentric with the spindle.



2. 檢驗鬆刀塊之配合鬆夾時間
Check the too loosening time.



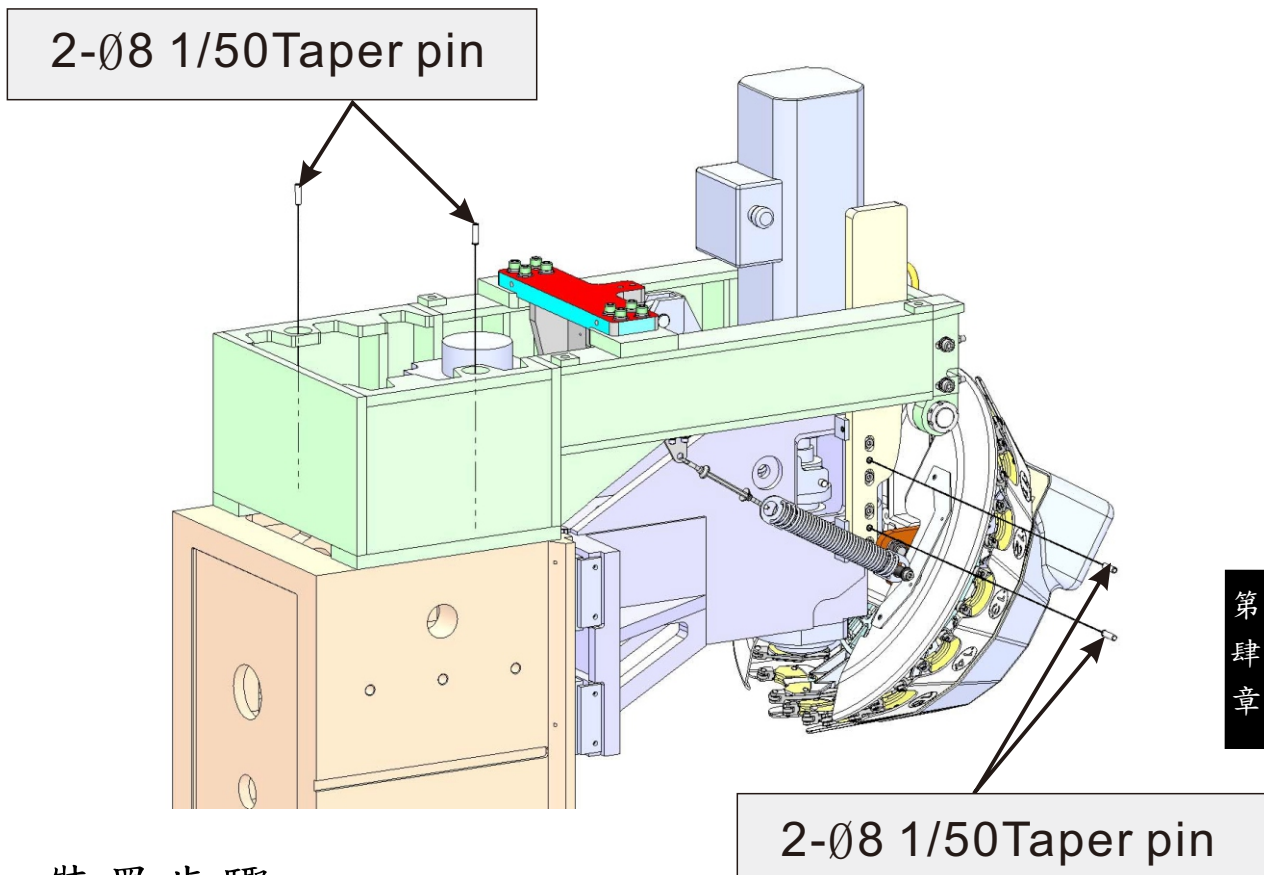
3. 確認後再將主軸(Z軸)之系統設定向上設置
0.03~0.05mm。再測試換刀動作是否順暢。
After check, set the program for 0.03~0.05mm
and check the tool changing motion.



請參考5-2頁鬆刀塊之調整。
Please refer to page 33 for
adjustment of loosening
tool block.

4.4 刀庫調整 Adjustment for tool magazine

4.4.4 1/50 Taper 斜銷固定作業(範例參考) Taper anchor operation(Reference example)



裝置步驟：

Steps for Installation:

1. 在進行此步驟前請先確認前幾項所有裝置程序是否完成。

Please check if all installation procedures are finished.

2. 使用手提電鑽及Ø8鑽頭於刀庫架及立柱頂端鑽2個Ø8的孔以及在導板平面上也鑽2個Ø8的孔。

Use handed electric drill and Ø8 drilling to drill two holes on two places which are the tool magazine shelf, the top of column and the phase for guiding plate.

3. 再用Ø8 1/50 Taper的絞刀加工先前2個Ø8孔, 使之成1/50 Taper的斜銷孔。

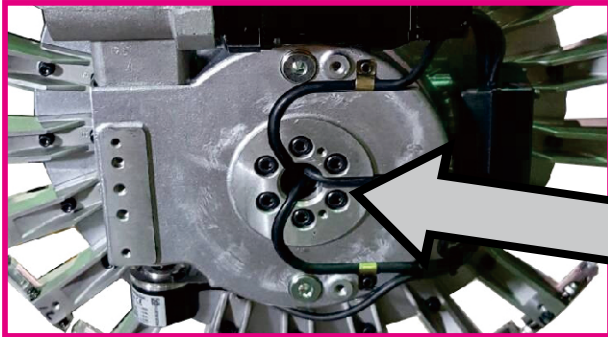
Use the stick for Ø8 1/50 Taper to make two holes of Ø8.

4. 將Ø8 1/50 Taper的斜銷敲入孔內, 讓工具機與刀庫架及導板穩固。

Install the pin of Ø8 1/50 Taper into the hole and stable the machine center and tool magazine shelf with the guiding plate.

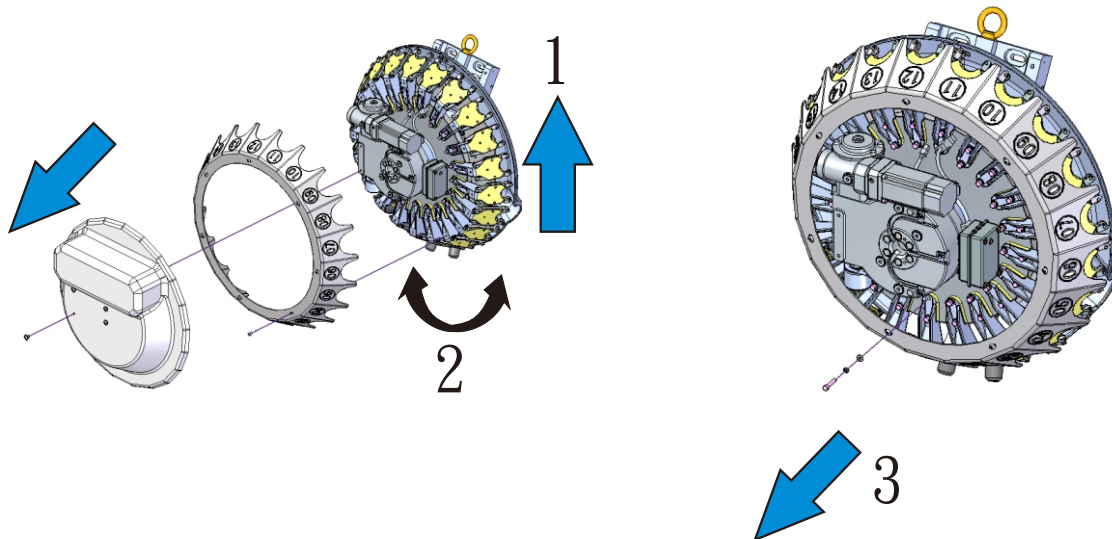
4.5 刀庫裝置資訊 Information for tool magazine Installation

4.5.1 線路出口 The circuit exit



線路安裝時, 線路的出口。
Install wiring and the exit for wiring.

4.5.2 刀夾換裝流程 Procedure for replacing tool clipper



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更換方法 Way for how to replace:

1. 先將主軸移至換刀點再取下外罩鈹金、防屑上、下檔板與刀盤蓋。
Move the spindle to the tool changing point and take the external sheetmetal, prevent sully plate (up & down) and tool disk cover apart.
2. 旋轉刀盤選擇需要更換之刀夾座。
Rotate the disk to choose the tool clipper base which needs.
3. 取下夾刀座螺栓。
Take the bolt from clipper base apart.
4. 退下須更換之下刀夾組。
Take the clipper set which is replaced.
5. 更換完再依反順序裝置。
After replacing, install parts in opposite way.



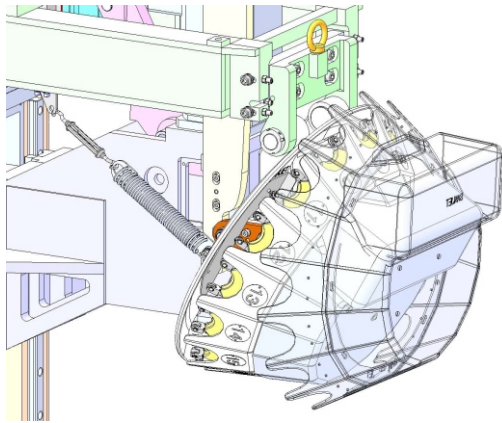
5

故障排除 Trouble Shooting



TDS PLUS 30
21T 夾臂式刀庫
TDS PLUS 30 Tapping Center

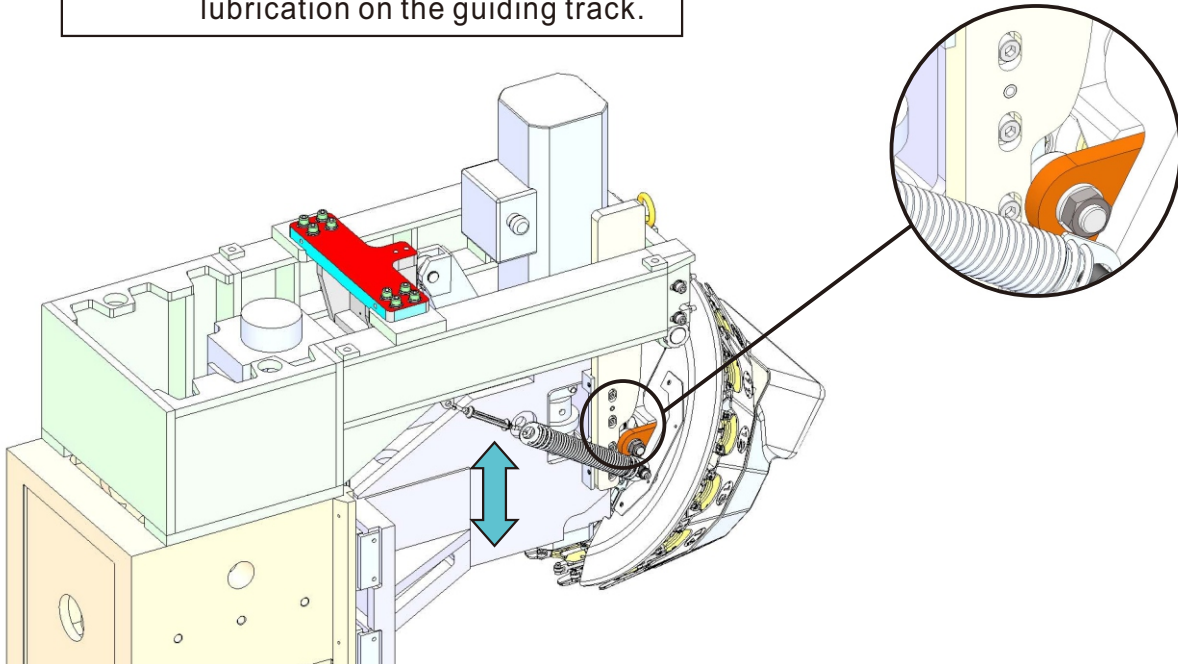
5.1 刀庫移動不順暢 Tool magazine hindered moving



狀況: 刀庫移動不順暢。
Condition: It is not smooth to move for tool magazine.

步驟 1. 檢查滑輪導軌是否有異物主軸慢速上下移動檢查
NO.1 Check if there is debris on the cam guiding plate to inspect for movement up and down.

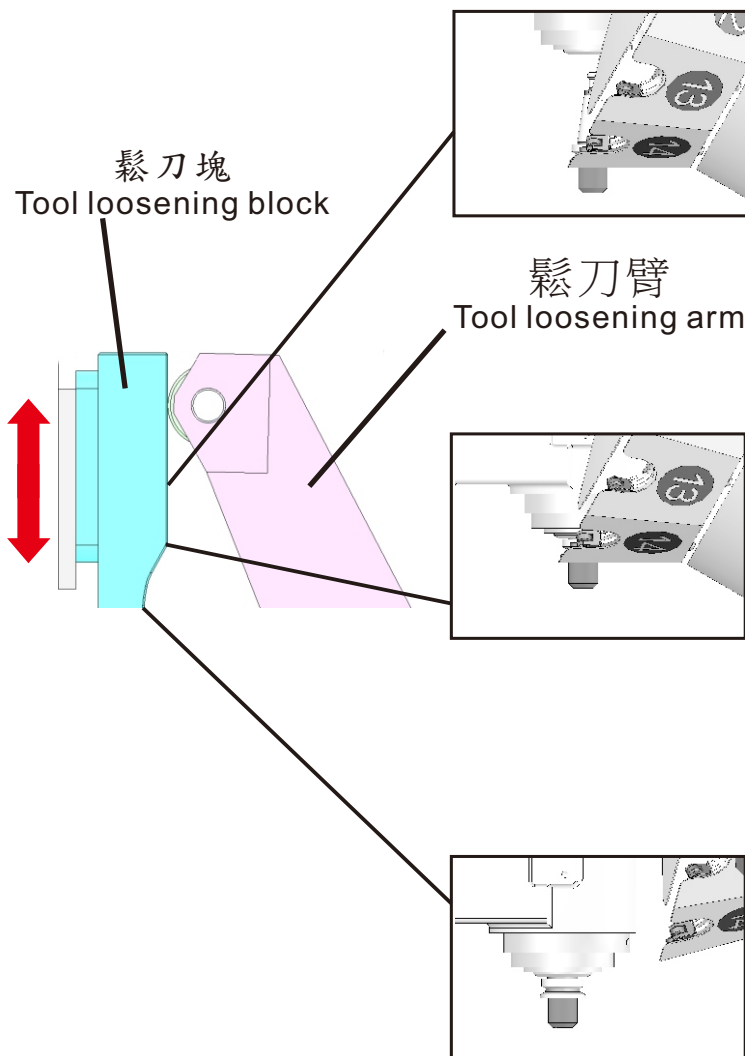
步驟 2. 排除異物並增添潤滑度
NO.2 (導軌處)
Eliminate the debris and add the lubrication on the guiding track.



註: 若以上動作無法排除故障, 請與相關供應商聯絡協助。
PS: If you can not solve problem, please contact our company.

5.2 鬆刀塊之調整

Adjustment for loosening block



1. 主軸夾爪呈全鬆刀(全開)狀態。
The clipper of spindle is on the condition of tool loosening (Open).



若主軸夾爪未全開狀態下高速移動將會把刀庫之夾刀座及刀桿衝擊斷裂。
 If the clipper of spindle does not open completely, high speed movement will cause the clipper base and taper broken.

2. 主軸夾爪呈半鬆刀狀態剛好是 "GL" 換刀點位置。
The clipper of spindle does not open completely and it is the "GL" position of tool changing.



若主軸夾爪仍是夾刀狀態主軸上移時會把刀庫之夾刀座及刀桿拉扯斷裂。
 If the clipper of spindle is the condition of clipping, moving up will make the clipper base and taper broken.

3. 主軸夾爪呈夾刀狀態。
The clipper of spindle is on the condition of clipping tool.

注意事項 Attention

1. 利用鬆刀塊上下移動參考上方之圖示。

Use the illustration of the movement for tool loosening block.

2. 鬆刀塊上移將使主軸夾爪延遲鬆開，下移將是提早鬆開，調整至 "GL" 線是換刀點。

Move the tool loosening block up and the clipper open for delay.

Move the tool loosening down early and adjust to the "GL" line

3. 鬆刀塊調整好後，使之固定以免長時間衝擊而造成換刀位置錯誤。

After adjust the tool loosening block and fix it in case making error when tool changing position.

6.1 附註一:

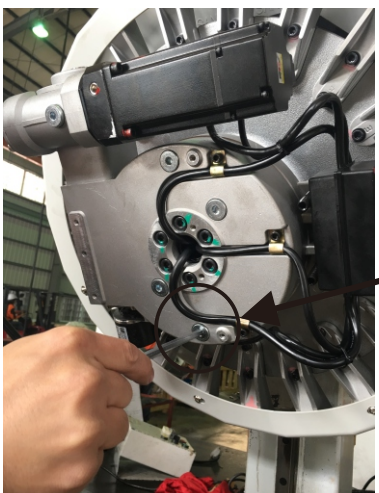
Cam oil model past script(1)



- 1、40#減速機加洩油孔
Reducer drain hole
- 2、油品名稱:美孚(Mobil)75W-90
Oil name:mobil 75w-90
- 3、油量:180 c.c
Oil quantity:180 c.c



- 1、105#箱體加油孔
Main body oil hole
- 2、油品名稱:美孚(Mobil)75W-90
Oil name:mobil 75w-90
- 3、油量:350 c.c
Oil quantity:350 c.c



- 105#洩油孔
Drain hole



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