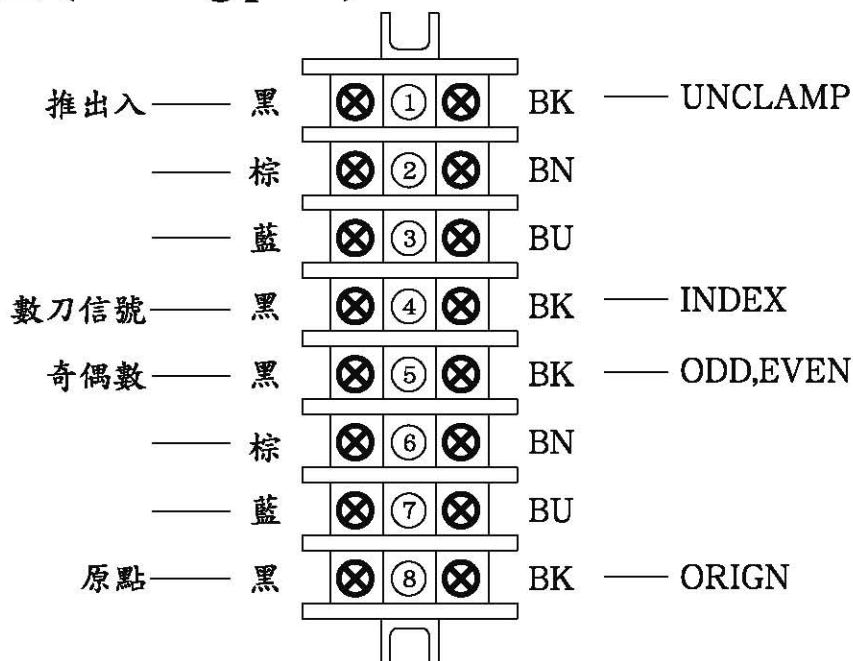




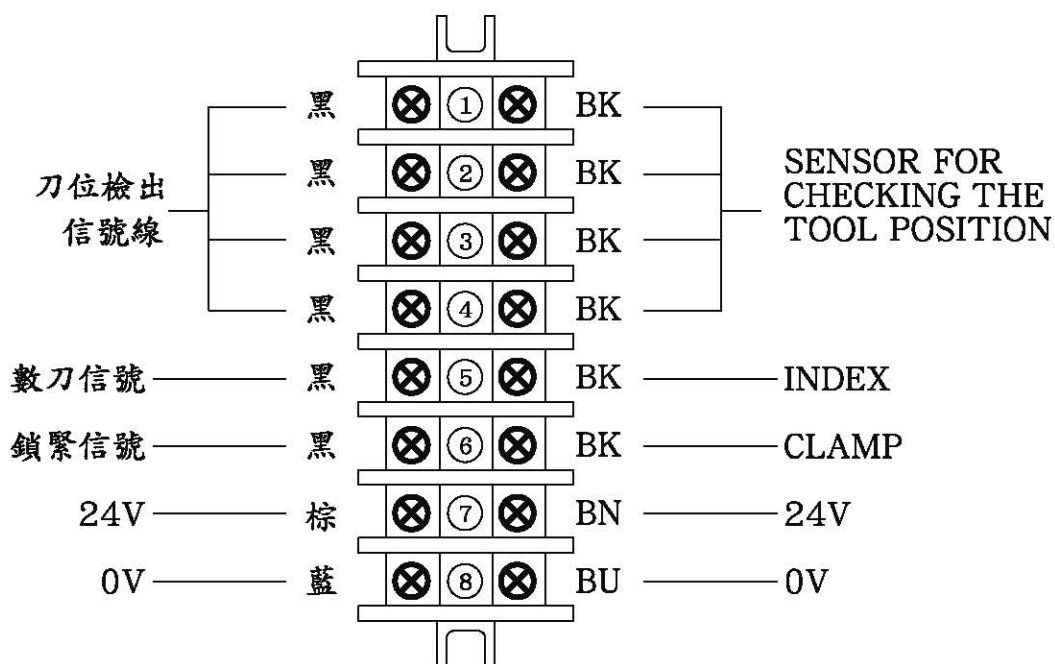
接線圖

Wiring Plan

(一) 接線圖 (Wiring plan)



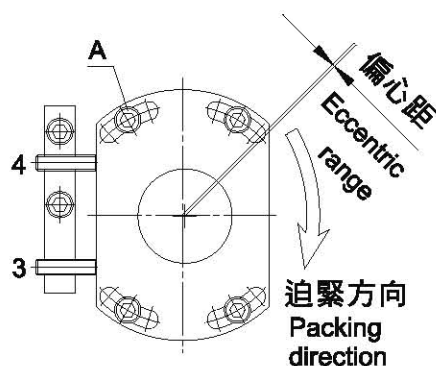
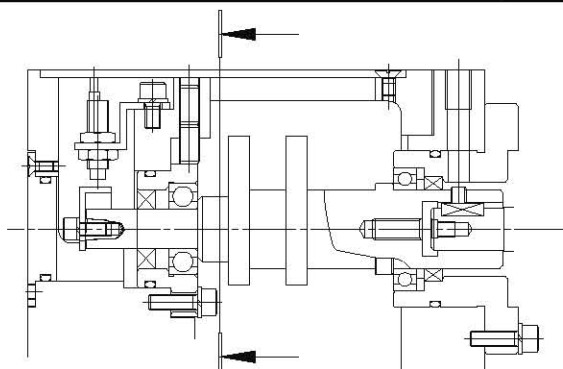
(二) 絕對式近接開關接線圖
(Wiring for absolute type sensor)





偏心軸套之調整

Adjustment of bias housing



◆凸輪軸與連動輪軸之調整:

- 1.凸輪軸之支撐軸承套,採內、外徑偏心之設計,可調整凸輪軸與連動輪軸之中心距及平行度,成最佳之傳動狀態,降低傳動聲音.
- 2.旋轉調整螺栓1~4,使共軛凸輪之靜止角與連動輪之滾子,成最佳之磨擦配合狀態,且滾子仍可順暢轉動後,再鎖緊A,B之六角承窩螺栓.

◆刀盤主軸定位與共軛凸輪軸靜止角位置之調整:

- 1.校正刀盤與車床之中心高及平行度.
- 2.放鬆錐形環鍵迫緊環之螺栓.
- 3.旋轉共軛凸輪軸,使靜止角中間位置與連動輪之滾子配合.
- 4.調整馬達一迴轉與刀盤原點刀之近接開關感應塊,皆於中間位置.
- 5.平均鎖緊錐形環鍵迫緊環之螺栓,扭力為 $6\text{kg}/\text{cm}^2$ 以內.

◆Adjustment for cam shaft and follower shaft.

1. The supporting bushing of cam shaft is adopted eccentric designs which can be adjustment the center's range and parallel for cam shaft and follower shaft and this is a good transmitting noise.
2. The rotating adjusting screw bolt 1-4 for which the static angle of coaxial wheel and follower roller will be happened a good friction couple condition, after the roller is rotated smoothly, thus to lock the hex. counter sinks screw bolt A,B.

◆Adjustment for tool holder disc positioning and coaxial cam shaft static angle:

1. Align the center height and parallelism for tool holder disc and lathe
2. Loosen the screw bolt for packing ring of taper pin.
3. Rotating the coaxial cam shaft for the middle site of static angle to couple with follower roller.
4. Adjusting the hyd. Motor turn once for the original tool proximity switch sensing block stayed at the middle site.
5. Lock the screw bolt for packing ring of taper pin evenly and the locking force must maintained within $6\text{kg}/\text{cm}^2$.



曲齒離合器安裝

Mounting the curvic coupling

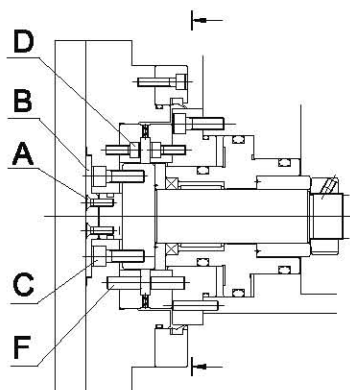


圖1
FIG1

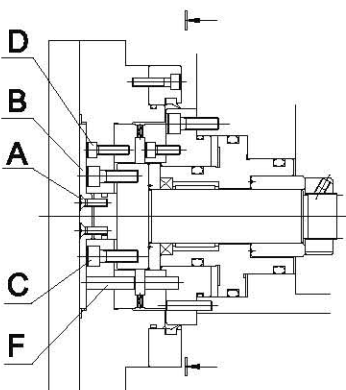
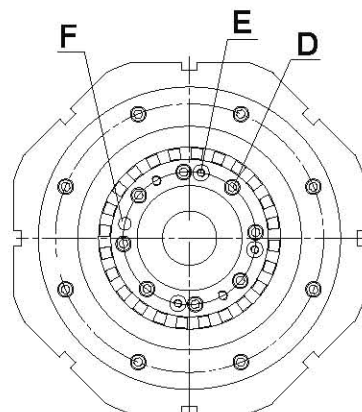


圖2
FIG2



◆安裝曲齒離合器:當撞車或其他因素,而須重新調整,校正曲齒離合器。

◆內側鎖定之曲齒離合器: 圖.1.

- 1.拆下螺絲(A),取出外蓋(B).
- 2.拆下螺栓(C),即可卸下刀盤.
- 3.拔出推拔銷(E),放鬆螺栓(D).
- 4.插入基準定位銷(F),重新鎖上螺栓(D).
- 5.插入推拔銷(E).
- 6.拔出基準定位銷(F),此銷只做安裝之基準定位用.
- 7.將刀盤依拆卸之相反順序重新裝回刀塔上即可.

◆外側鎖定之曲齒離合器: 圖.2.

- 1.拆下螺絲(A),取出外蓋(B).
- 2.拔出推拔銷(E),放鬆螺栓(D).
- 3.插入基準定位銷(F),重新鎖上螺栓(D).
- 4.插入推拔銷(E).
- 5.拔出基準定位銷(F),此銷只做安裝之基準定位用.
- 6.將刀盤蓋依拆卸之相反順序重新裝回刀塔上即可.

◆After the curvic coupling is installed. But when the turret is collided or other condition happens. Which must be re-installed and aligned the curvic coupling.

◆The disassembly procedures of inner locked curvic coupling as fig.(1).show :

- 1.To loose the screw (A) and remove the outer cover (B)
- 2.To unlock the outer screw bolt (C) and then the tool holder can be removed.
- 3.To tack out taper pin (E) and release the screw bolt(D)
- 4.To insert the locking pin (F) and relock the screw bolts(D)
- 5.To insert the taper pin (E)
- 6.To remove the locking pin (F) for which just employ as the basic positioning.
- 7.Reinstall the tool holder disc on the turret as the reverse procedures of tool holder disc disassembled

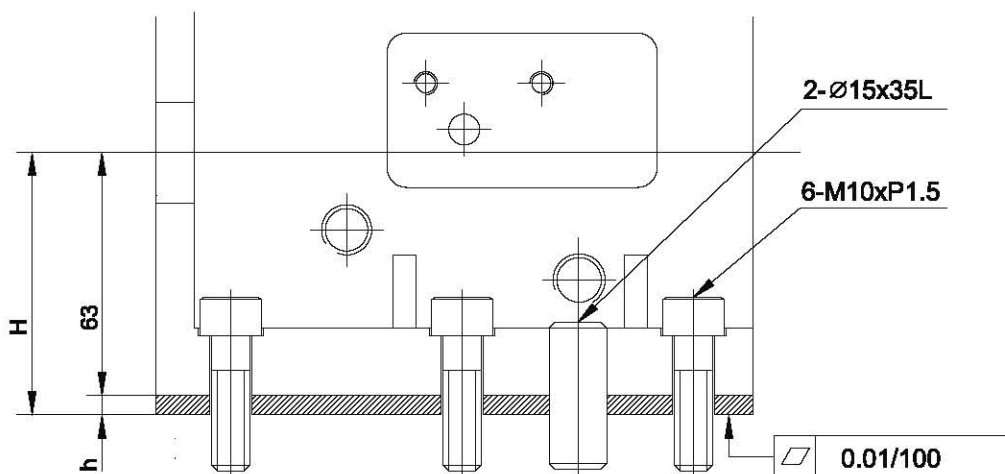
◆The disassembly procedures of outer locked curvic coupling as fig.(2).show :

- 1.To loose the screw (A) and remove the outer cover (B)
- 2.To tack out taper pin (E) and release the screw bolt (D)
- 3.To insert the locking pin (F) and relock the screw bolts(D)
- 4.To insert the taper pin (E)
- 5.To remove the locking pin (F) for which just employ as the basic positioning.
- 6.Reinstall the tool holder disc on the turret as the reverse procedures of tool holder disc disassembled



基本設定

Basic setting



安裝圖示以墊片 h , 調整高度 H ,以直銷定位.

Installing fig. Illustrating : To adjust the height (H) by gasket (h) and positioned with pin.

◆ 刀盤校正時,須以油壓動力定位,確實定位後再校正直線.

1. 刀塔接上油壓源,調整油壓,壓力小於正常工作壓力,大約在 $15\text{Kg}/\text{cm}^2$.
2. 接上近接開關的電源.
3. 控制油壓迴路,使刀盤無鉗住,檢測並調整近接開關,為感應狀態.
4. 利用手動方式,轉動凸輪軸,使刀盤轉到歸零點.
5. 檢測歸零點近接開關,並調整為感應狀態.
6. 利用手動方式,做分度動作測試.
7. 檢視奇偶數,計數近接開關.
8. 控制油壓迴路,使刀盤鉗住,並檢視近接開關為無感應.
9. 做換刀動作與近接開關之測試.
10. 接上切削液管路,並測試是否順暢.

◆ To adjust the tool holder disc which must be positioned by hyd. power and align the center line after the positioned be sure.

1. To connect the hyd. power with the turret and the hyd. pressure must be lower than the normal pressure which about $15\text{kgf}/\text{cm}^2$.
2. To connect the electric power of proximity switches.
3. To operate hyd. circuiting for tool holder disc unclamp and measure and adjust the proximity switches being with sensing.
4. employ manual to turn the cam shaft for tool holder disc turn to zero point.
5. To measure the proximity switches of return zero point and make adjusting for sensitive condition.
6. Employ manual to test indexing.
7. To inspect the odd. And even etc. counting proximity switches.
8. To operate hyd. circuiting for tool holder disc clamped and measure and adjust the proximity switches being with no. sensing.
9. Making tool change and testing of proximity switches.
10. To connect the cutting fluid piping and testing which is drained smoothly.



故障排除

Trouble shooting

故障現象 Fault	檢視原因 Reason	排除方法 Remedy
◆換刀後,刀盤連續運轉,不停止. ◆After making tool change and the tool holder disc will be rotated continuously not stopped.	1.分度感應器或計數感應器,沒反應. 2.馬達正反轉電磁閥. 1.Perhaps the indexing sensor or counting sensor etc. no action. 2.The forward and reserve sol. valve of motor failed.	1.調整分度感應器或計數感應器,或更換之 2.電磁閥線圈或繼電器調整或更換之.. 1.Making adjustment of indexing sensor or counting sensor and replace a new one. 2.Repair the sol. valve coil or making adjustment of relay or replace a new one.
◆換刀後,刀盤轉至選刀後,不鎖定. ◆After making tool change and the tool holder disc will turned to selected unlocked.	1.分度感應器. 2.刀盤推出感應器. 3.刀盤推出及定位電磁閥. 1.Perhaps the indexing sensor failed 2.The pushed sensor of tool holder disc failed. 3.The pushed sensor of tool holder disc and positioning sol. valve failed.	1.調整分度感應器或更換之. 2.調整刀盤推出感應器或更換之. 3.電磁閥線圈或繼電器調整或更換之. 1.Making adjustment of indexing sensor or replace a new one. 2.Making adjustment for pushed sensor of tool holder disc or replace a new one. 3.Repair the sol. valve coil or making adjustment of relay or replace a new one.
◆換刀時,刀盤轉動不順或中途停止. ◆After making tool change and the tool holder disc will turned unsmoothly or middle stopped.	1.馬達正反轉電磁閥故障. 2.感應器訊號不良. 3.油壓泵壓力,流量不足. 4.錐形環鍵鬆脫. 5.刀架或刀具外部干涉. 1.The forward and reverse sol. valve of motor failed 2.The signal of sensor illness. 3.The fluid pressure and volume of hyd. pump is shorted. 4.The taper key is loosened. 5.The tool rack or outer tool interrupted.	1.電磁閥線圈或繼電器調整或更換之 .2.調整分度感應器或更換之. 3.調整油壓泵壓力,流量. 4.重新定位後,鎖緊錐形環鍵押環. 5.取出干涉之刀架或刀具. 1.Repair the sol. valve coil or making adjustment of relay and replace a new one. 2.Making adjustment of indexing sensor or replace a new one. 3.Readjust the fluid pressure and volume of hyd. pump. 4.Re-positioned and locked the taper key. 5.Remove the interrupted tool rack and outer tools.



故障排除

Trouble shooting

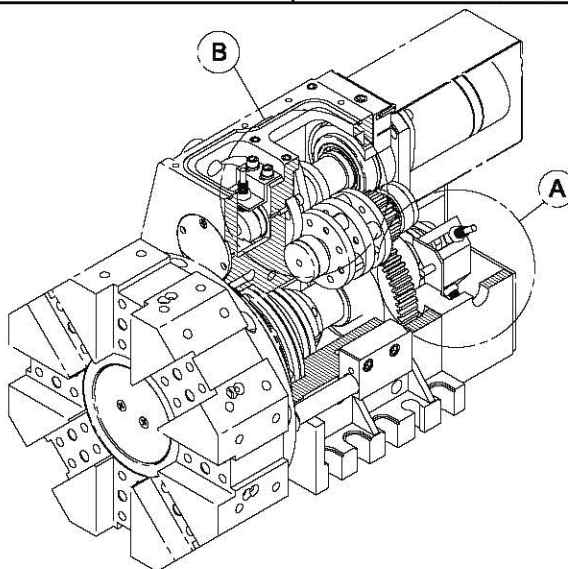
故障現象 Fault	檢視原因 Reason	排除方法 Remedy
◆啟動換刀後,刀盤停止於原刀號,而未動作. ◆Starting tool change and the tool holder disc will stopped at the original no. action.	1.刀盤鉗住未推出. 2.刀盤已推出未轉動. 3.內部機構卡住. 1.The tool holder disc be clamped and not replaced. 2.The tool holder disc has pushed and not rotated. 3.The inner structure be clogged.	1.刀盤推出及定位電磁閥線圈或繼電器調整或更換之. 2-1.馬達正反轉電磁閥線圈或繼電器調整或更換之.2-2.正反轉油壓馬達故障,更換油壓馬達. 3.須由專業人員或合格之經銷商或原製造商拆卸調整之. 1.Making adjustment of tool holder disc pushed and positioned sol. valve coil or relay and replace a new one. 2-1.Making adjustment for forward and reverse sol. valve of motor or relay and replace a new one. 2-2.The forward and reverse hyd. motor failed and replace a new one. 3.Those must disassembled and adjusted by professional or assigned agent.
◆刀盤不鎖定. ◆The tool holder disc will not locked.	1.刀盤推出及定位電磁閥 2.換刀頻率過高. 1.The tool holder disc pushed and positioning sol. valve failed. 2.The tool change rate is override.	1.電磁閥線圈或繼電器調整或更換之. 2.降低試車之換刀頻率. 1.Repair the sol. valve coil or making adjustment of relay and replace a new one. 2.Reduce the tool change frequency for test running.
◆刀盤轉至定位定位不對正. ◆The tool holder disc will turned to the positioned. But not coincide	1.主軸定位角度偏離. 1.The main spindle positioning angle is misaligned.	1.由主軸後側之錐形環鍵迫緊環,重新調整主軸定位角度. 1.Readjust the main spindle positioning angle from rear of main spindle.
◆換刀時刀盤轉動不是就近選刀. ◆During tool change the tool holder disc will turned. But, the tool selecting is not at nearly.	1.馬達正反轉接線錯誤. 2.計數感應器訊號不良. 1.The wrong wiring of motor forward and reverse. 2.The signal of counting sensor is illness.	1.更正馬達正反轉接線. 2.調整計數感應器或更換之. 1.Correct wiring of motor forward and reverse. 2.Making adjustment of counting sensor or replace a new one.
◆切削液異常. ◆The cutting fluid happened abnormal condition.	1.管路阻塞. 2.切削液洩漏. 3.切削液未噴出. 1.The piping system is clogged. 2.The cutting fluid is leaked 3.The cutting fluid is not drained.	1.拆卸切削液管路相關零件清洗之. 2.更換密封防漏O形環. 3.調整出水口與刀盤封環對準位置或冷卻泵電源. 1.To disassemble the piping system and clean. 2.Replace the leaked portion. 3.Making adjustment of coolant pump motor.



立體圖

-LS120/LS-160

Stereograph LS120/LS-160



刀盤定位角度偏移調整方式

故障原因：刀盤無法定位。

判斷原因：檢查(圖一)⑤與⑥是否在圖示之正確位置上。

排除方法：刀盤須在正確位置夾緊之狀態下，拆下(圖三)⑦零件，鬆開(圖四)⑧之螺絲，用強制方式旋轉液壓閥使(圖一)④凸輪旋轉至圖上所示之正確位置，檢查(圖一)⑤與⑥之零件是否如圖所示之位置。鎖緊(圖四)⑧之螺絲，鎖定時不可一次鎖緊，須做漸近方式及平均分佈鎖緊螺絲，大約分三階段。刀盤用液壓閥強制推出拉回，鎖緊(圖四)⑧之螺絲即可。

P.S：做上述之動作刀盤建議停至在1號刀之位置上處理。

The adjustment way for deflection of the Tool Disks position angle

Reason for outage : Tool disk can not position.

Reason of judgment : Check whether(Diagram 1)⑤,⑥ on the correct position.

Settle way : Tool disk should clamp tight under the correct situation, then unfix off the parts of⑦ (Diagram 3) , loose off the screw of⑧ (Diagram4), and use force way to turn hydraulic valve to make the ④ cam (Diagram1) turn to the correct position of upper diagraeme, check whether the parts of ⑤ ,⑥ (Diagram 1) is correct or not. Lock the screw of ⑧ (Diagram 4), can not clamp tihgt by one time only, should lock screws slowly and screw them with average power, to pompart to 3 steps. Use hydraulic valve to force tool disk for push out and pull in, only needs to screw tight the ⑧ screw (Diagram 4).

P.S : We suggest you to stop the disk on the position of NO.1 tool for doing upper actions.

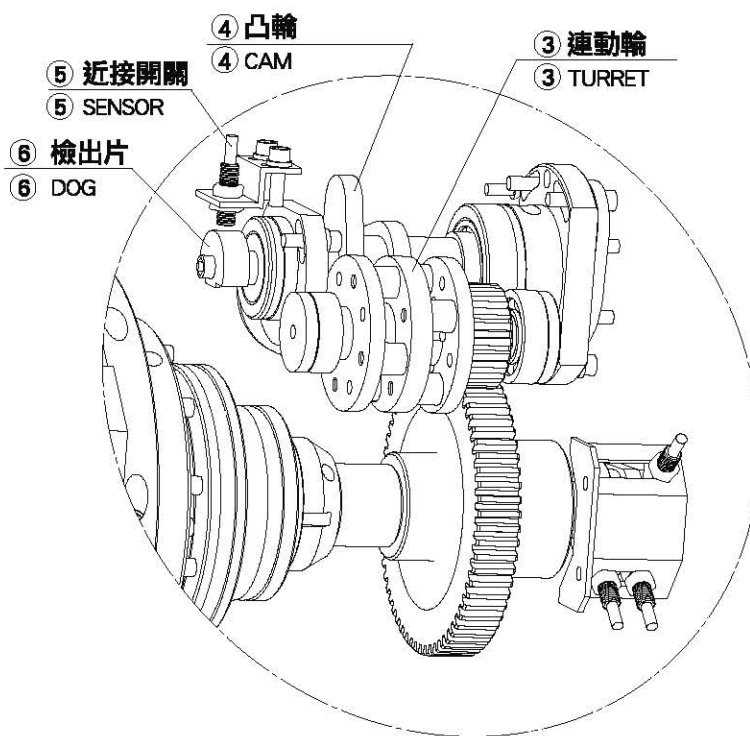


局部詳圖

-LS-120/LS-160

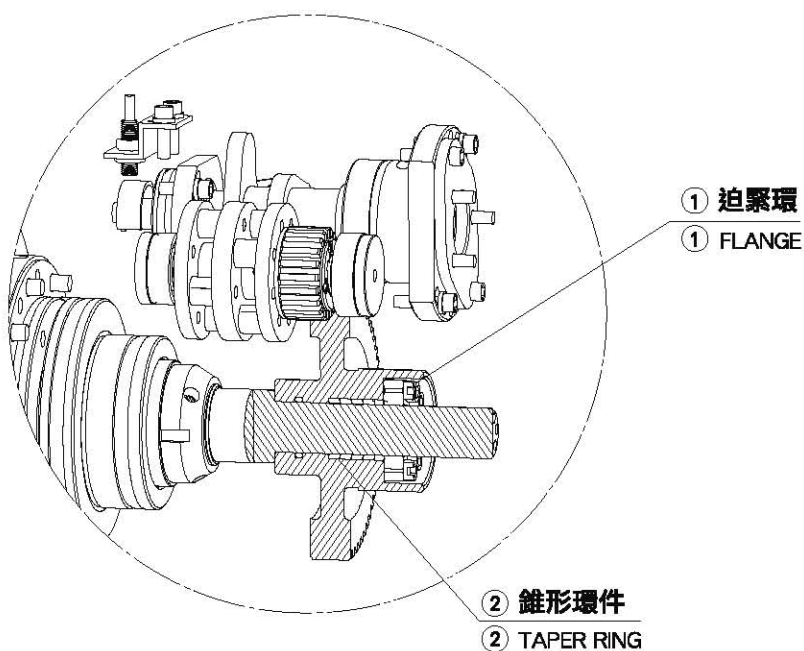
Partial Diagram

-LS-120/LS-160



B局部示圖(圖一)

Plan for B part (Diagram 1)



B局部示圖(圖二)

Plan for B part (Diagram 2)

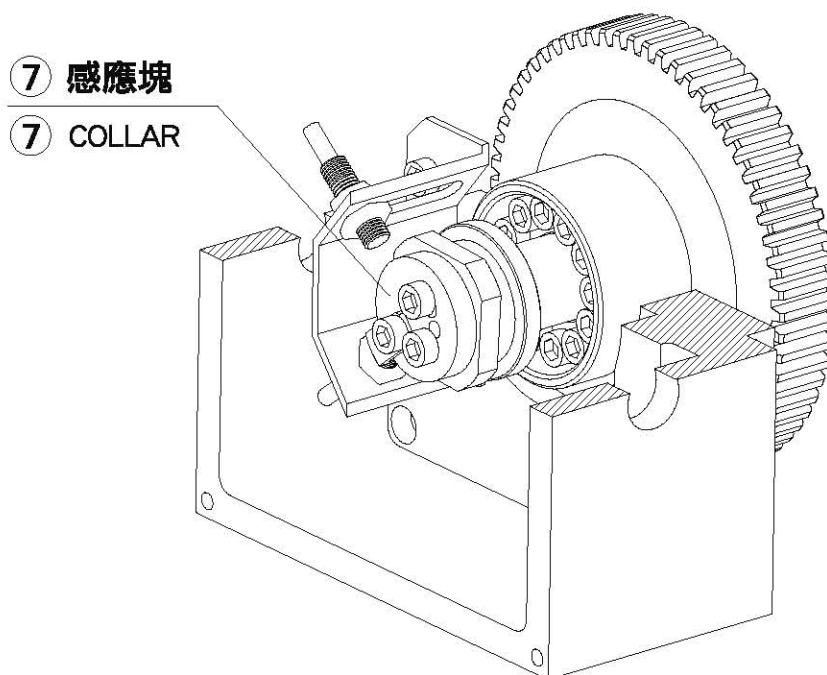


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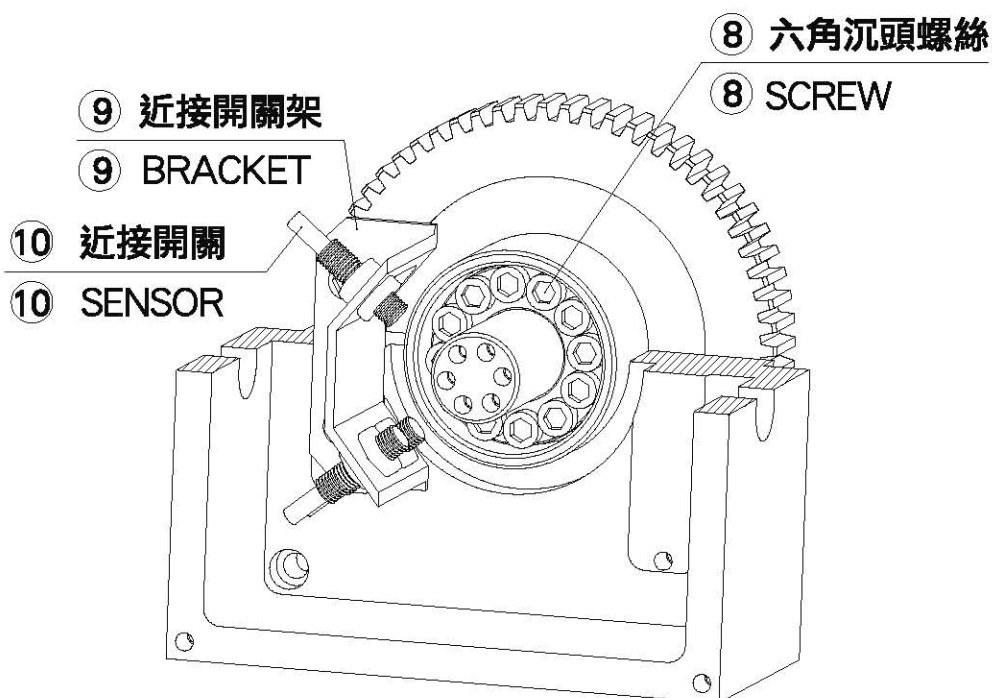
-LS-120/LS-160

Partial Diagram

-LS-120/LS-160



A局部示圖(圖三)
Plan for A part (Diagram 3)



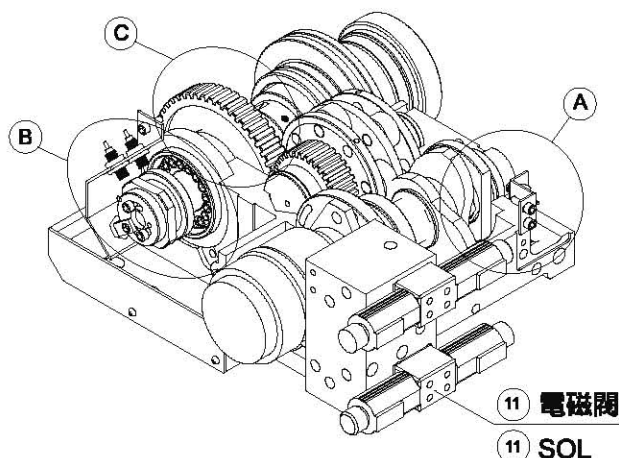
A局部示圖(圖四)
Plan for A part (Diagram 4)



立體圖

-LS240/LS-240A

Stereograph LS240/LS-240A



圖一
Diagram 1

刀盤定位角度偏移調整方式

故障原因：刀盤無法定位。

判斷原因：檢查(圖二) ⑤與 ⑥是否在圖示之正確位置上。

排除方法：刀盤須在正確位置夾緊之狀態下，拆下(圖四)⑦零件，鬆開(圖五)⑧之螺絲，用強制方式旋轉(圖一)⑪液壓閥使(圖三)④凸輪旋轉至圖上所示之正確位置，檢查(圖二)⑤與 ⑥之零件是否如圖所示之位置。鎖緊(圖五)⑧之螺絲，鎖定時不可一次鎖緊，須做漸近方式及平均分佈鎖緊螺絲，大約分三階段。刀盤用液壓閥強制推出拉回，鎖緊(圖五)⑧之螺絲即可。
P.S：做上述之動作刀盤建議停至在1號刀之位置上處理。

The adjustment way for deflection of the Tool Disks position angle

Reason for outage : Tool disk can not position.

Reason of judgment : Check whether(Diagram 2) ⑤ , ⑥ on the correct position.

Settle way : Tool disk should clamp tight under the correct situation, then unfix off the parts of ⑦ (Diagram 4) , loose off the screw of ⑧(Diagram 5), and use force way to turn ⑪ hydraulic valve (Diagram 1) to make the cam of ④ (Diagram 3) turn to the correct position of upper diagraeme, check whether the position for parts of ⑤ , ⑥ (Diagram 2) is correct or not. Lock the screw of ⑧ (Diagram 5), can not clamp tight by one time only, should lock screws slowly and screw them with average power, to pompart to 3 steps. Use hydraulic valve to force tool disk for push out and pull in, only needs to screw tight the ⑧ screw (Diagram 5).

P.S : We suggest you to stop the disk on the position of NO.1 tool for doing upper actions.



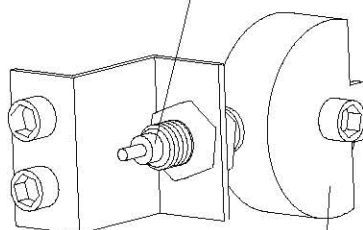
局部詳圖

-LS-240/LS-240A

Partial Diagram -LS240/LS-240A

⑤ 近接開關

⑤ SENSOR



⑥ 檢出片

⑥ DOG

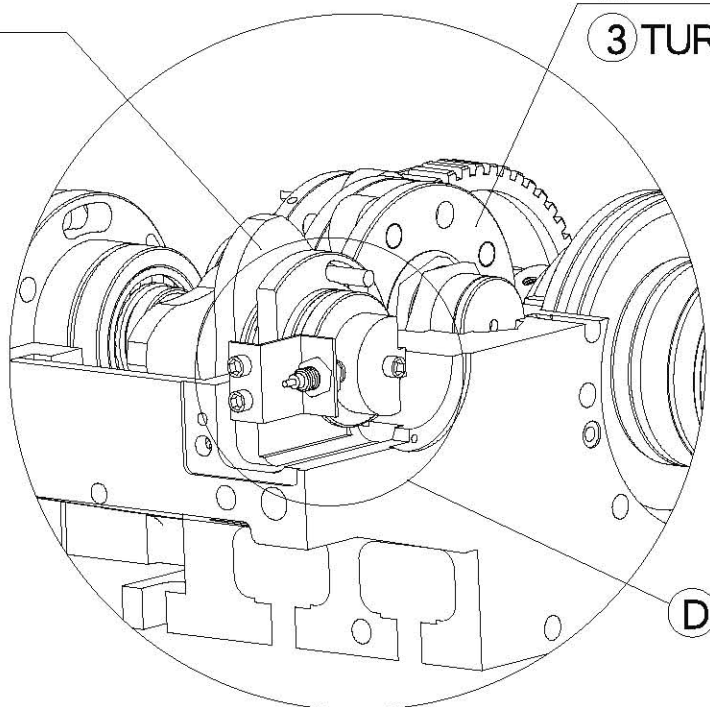
D局部示圖(圖二)
Plan for D part (Diagram 2)

④ 凸輪

④ CAM

③ 連動輪

③ TURRET



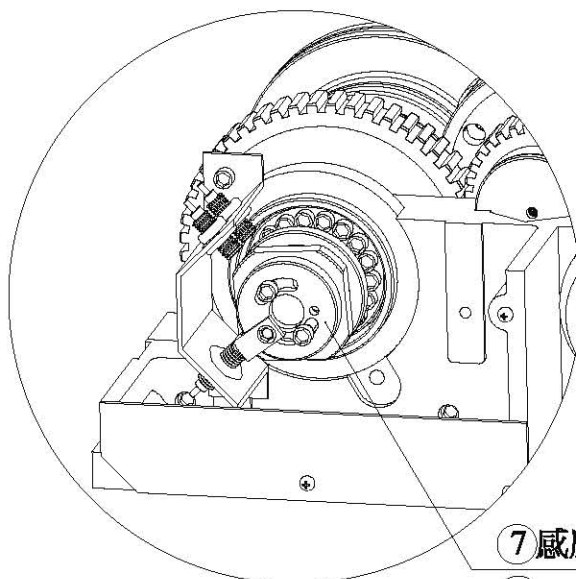
A局部示圖(圖三)
Plan for A part (Diagram 3)



局部詳圖

-LS-240/LS-240A

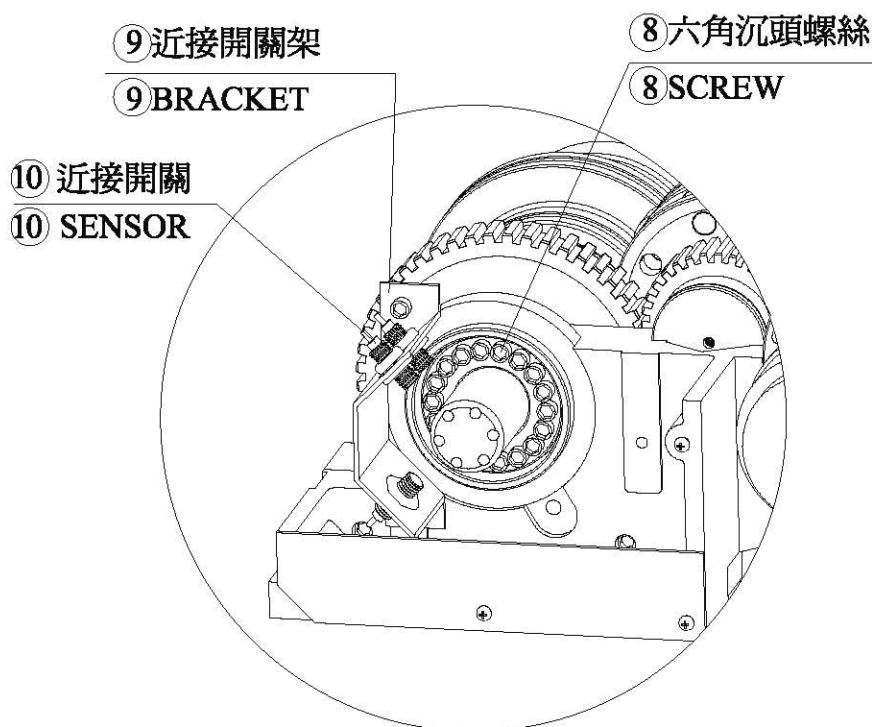
Partial Diagram -LS240/LS-240A



⑦感應塊

⑦COLLAR

B局部示圖(圖四)
Plan for B part (Diagram 4)



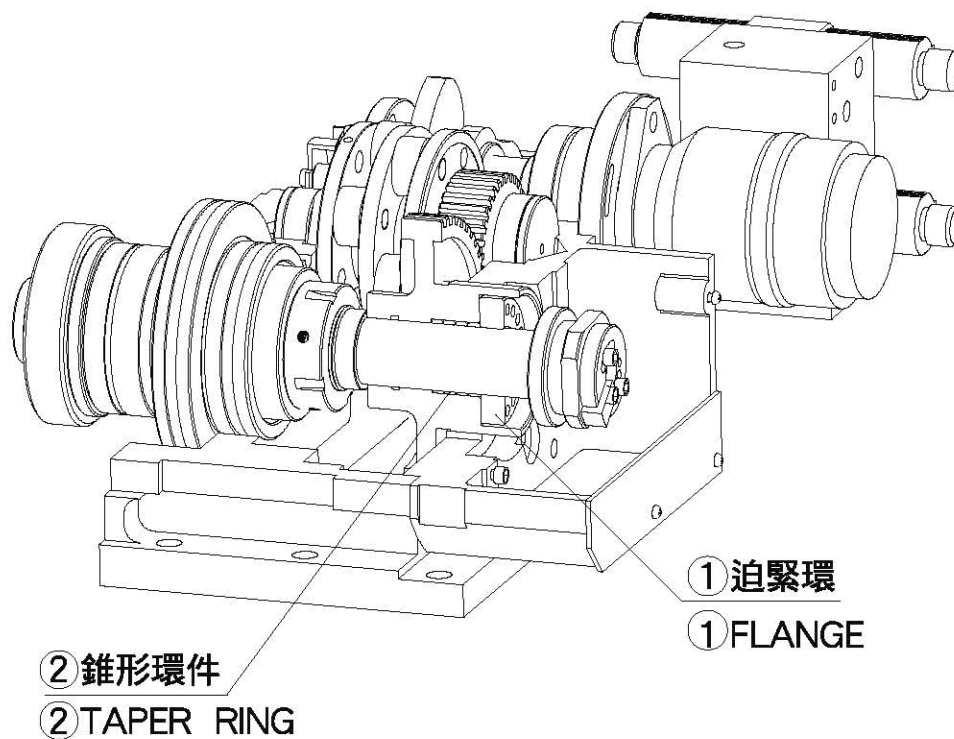
B局部示圖(圖五)
Plan for B part (Diagram 5)



局部詳圖

-LS-240/LS-240A

Partial Diagram -LS240/LS-240A



C局部詳圖(圖六)

Plan for C part (Diagram6)



安全注意事項

Safety precaution

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| <p>1.使用本刀塔前,必須熟讀本操作手冊.</p> <p>2.於維修,調整,清理,拆卸,安裝本刀塔前,必須先關掉主電源.</p> <p>3.試運轉前,須將活動護罩關上,不可靠近,並注意刀盤轉動範圍,才可啟動開關.</p> <p>4.依操作手冊內,提供之時限,更換符合品質之零件與潤滑油.</p> <p>5.請依照標準,選用電氣零件及電氣配線,零件清單,詳如電控系統.</p> <p>6.本刀塔沒有提供油,氣壓,油壓,切削液及電力等動力源.</p> <p>7.本刀塔安裝後與整機有關之CE等,技術文件與操作手冊,由購置廠商自行準備.</p> <p>8.油壓,電氣及切削液管線,請依手冊說明之相關位置,由購置廠商,自備連接管線配接固緊.</p> <p>9.對本刀塔,若有特殊用途或使用上,有任何疑問與發生故障時,請依儘速與合格之代理商或製造商連絡.</p> <p>10.本產品不對下列情形,所造成之故障及傷害負保證責任:</p> <p>A.未依照操作手冊內之說明使用.</p> <p>B.不正當之操作與使用.</p> <p>C.未經授權同意,而私自將功能作各種改變時.</p> <p>D.使用非原製造商提供之備品.</p> | <p>1.Before use the tool turret, for which must studied the instruction manual detailly</p> <p>2.Before making maintenance, adjustment, disassembly and install the tool turret for which must turned off master power.</p> <p>3.Before making test running for which closing the sliding cover and far from the tool holder disc rotating range. Thus, start on the power switch.</p> <p>4.According to the recommended duty running period of instruction manual to replace the qualified parts and lubricant.</p> <p>5.According to the electrical standard to select the qualified electrical parts and electrical wiring etc. detail as electrical controlling system.</p> <p>6.The tool turret is not supplied the hyd. pneu. and electrical etc. driving power and so as to the cutting fluid system.</p> <p>7.As for the technical literature's of tool turret and relative CE. paper, instruction manual etc. for which responsible by the purchaser.</p> <p>8.According to the supplied instruction manual descripted the hyd. electrical and cutting fluid piping diagram and the purchaser whom can be connected and preparing the installed material.</p> <p>9.If you have any question to the tool turret or malfunction of tool turret. Please contact us or contact your local agent.</p> <p>10.If happened failed or injury under following condition for which our company will not responsible such as:</p> <p>A.The operating procedures are not according as instruction manual mentioned.</p> <p>B.Abnormal operating and applications.</p> <p>C.To exchange the functions of tool turret selflessly and under not to permissible.</p> <p>D.To employ for which is not the original company supplied spare parts.</p> |
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