機台：

GXA-S旋轉軸

GXA-S

GXA-S Series

 **設備種類**：工具機旋轉軸

 **設備部件**：旋轉軸背隙調整系統

 **維修項目**：背隙調整與校準

 **維修類型**：修復性維護

 **規格**：GXA-S系列

 **系統**：GXA-S系列控制系統

 **產品名稱**：GXA-S系列旋轉軸

 **故障發生原因**：長時間運轉造成的磨損、元件老化或不當安裝引起的背隙過大

 **故障描述**：旋轉軸在運轉過程中出現不穩定或精度下降，尤其是反向運動時誤差增加

 **故障發生時機**：運行長時間後或在負載較大或高精度操作時容易發現問題

Step1

Remove part ① by tool A.

使用平口螺絲起子移除塞蓋。

**Remark:**

Tool A

Step2

Rotate motor until tool B(4mm) can reach M5 screws on part ②. Loose the screws. At remark ② SKT.HD.CAP.SCR.

轉動馬達至可將T型板手4mm套入聯軸器上的M5螺絲②後，將螺絲放鬆。

**Step3**

Remove Flat.HD.SKT.SKR \*4pcs by toolB(2.5mm). Remove part ③.

使用T型板手2.5mm拆開皿型螺絲 4只，將軸封蓋取下。

**Remark:**

Tool B

Step4

Loose SKT.HD.CAP.SCR \*2pcs by tool B(3mm).

使用T型板手3mm放鬆內六角螺絲M4螺絲 2只。

**Remark:**

Tool B

Step5

Lock M6x50L screws \*2pcs on part ④. Rotate part ④ by the 2 screws. Rotate clockwise to reduce backlash;

Rotate counter-clockwise to increase backlash.

\* It is recommended to rotate up to **quarter(1/4)** turn at one time.

在套管座鎖上M6x50L螺絲 2只，應用2只螺絲轉動套管座，順時針方向為縮小蝸桿蝸輪背隙，逆時針方向為放大蝸桿蝸輪背隙。

\*建議一次最多轉動1/4圈。

Step6

If the backlash too large, rotate M6x50L \*2pcs on part ④ **clockwise** to reduce backlash.

若**背隙過大**時，在套管座上的M6x50L螺絲 2只以順時針旋轉調整側套管來減少蝸桿蝸輪背隙。

Step7

If the backlash too small, rotate M6x50L \*2pcs on part ④ **anti-clockwise** to increase backlash.

若**背隙過小**時，在套管座上的M6x50L螺絲 2只以逆時針旋轉調整側套管來增加蝸桿蝸輪背隙。

Step8

Tighten SKT.HD.CAP.SCR \*2pcs.

鎖緊內六角螺絲M3螺絲 2只。

**Remark:**

Tool B

Step9

1.將千分錶吸附在本體上,錶針量測在盤面一處T型溝側邊

2.使用治具T溝板手插入盤面其他T型溝,使用推拉力計距離盤面外緣約100mm左右,順時針施力約10~15Kg後放鬆觀察千分錶數值.

3.使用治具T溝板手插入盤面其他T型溝,使用推拉力計距離盤面中心半徑約100mm左右,逆時針施力約10~15Kg後放鬆觀察千分錶數值.

4.間隙須在0.005~0.01mm,如果太大或太小则需重複操作調整至範圍內

1. The dial indicator is adsorbed on the body, and the dial needle is measured on the side of T-slot ditch on the table plate surface.

2. Insert the T‐slot wrench of the jig into others T-slot of the table plate, use the tensiometer to distance about 100mm from the outer

edge of the table plate, apply about 10~15Kg clockwise force, then loonse and observe the value of the dial indicator.

3. Insert the T‐slot wrench of the jig into others T-slot of the disk surface, use the tensiometer to distance about 100mm from the

center radius of the disk surface, apply about 10~15Kg counterclockwise force, then loonse and observe the value of the dial indicator.

4. The clearance must be 0.005~0.01mm. If it is too large or too small, repeat the operation to adjust it to the range.

**Remark:**

**\* Standard value/標準值 : 0.005～0.01mm**

**\* The indication on dial gauge/千分錶示意:**

**(1) A: Backlash/ 背隙值**

**(2) B: Flexible Deformation / 彈性變形量**

**Step10**

Adjust backlash on the circumference of rotary table at 90 degrees intervals as Fig. 10-1. Repeat

step 5-step 10 until the alignment is in the regulation. (0.005mm-0.01mm)

蝸輪分為4點, 量測間距為 90度(分度盤旋轉的角度)。每轉90ﾟ量測一次,檢查數據平均值

重複步驟5~8將背隙調整到0.005mm~0.01mm。

Step11

After adjusting backlash. Rotate motor until tool B(4mm) can reach M5 screws on part ②. tighten

the screws. (At remark ② SKT.HD.CAP.SCR.)

Reassemble part ③ and part ① in the reverse order. The adjustment of backlash for GXA-S series is complete.

背隙調整完畢後，轉動馬達至可將T型扳手4mm套入聯軸器上的M5螺絲②後，將螺絲鎖緊。依序將塞蓋以及蝸桿封蓋裝回，即完成蝸桿蝸輪的背隙調整。