

## Adjustment of Backlash for GXA-S series GXA-S背隙調整

For Model: Ans: For GXA-S GXA-H GVA GFA-S GFA-H GTF GTFAE Series

Safety Equipment (安全設備) : None

Tool (工具):

A

B

C

D

E



A - Flat Screwdriver (平口螺絲起子)

B - T-Wrench (T型扳手)

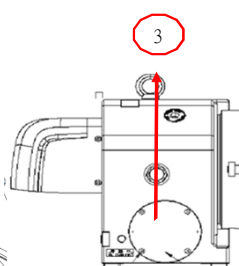
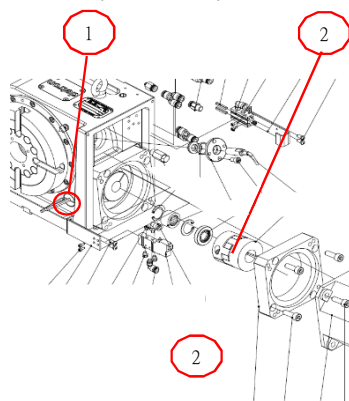
C - Dial indicator (千分錶)

D - Jig - T-slot wrench

(T溝板手-治具)

E - Tensiometer (推拉力計)

Illustration (部位位置說明):



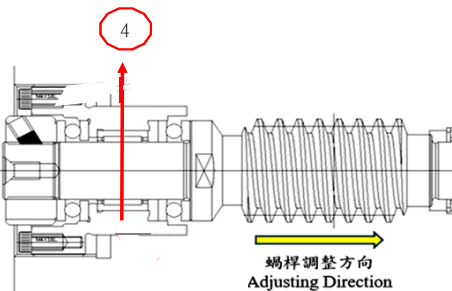
Parts(零件):

① Plug (塞蓋)

② Coupling (聯軸器)

③ Cover (軸封蓋)

④ Sleeve of Worm Shaft (調整測套管)



## Step 1

Fig. 1-1 Remove part ① by tool A.



使用平口螺絲起子移除塞蓋。

Remark:

\*Tool A



## Step 2

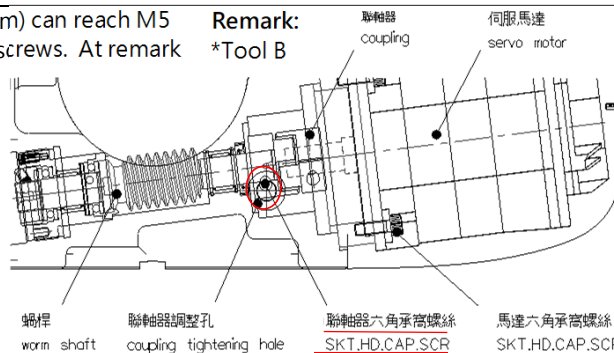
Fig. 2-1 Rotate motor until tool B(4mm) can reach M5 screws on part ②. Loose the screws. At remark ② SKT.HD.CAP.SCR.



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。

Remark:

\*Tool B



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## Step 3

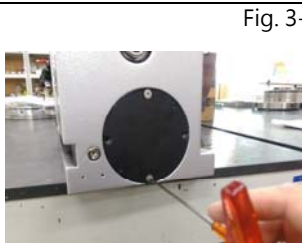


Fig. 3-1 Remove Flat.HD.SKT.SKR \*4pcs by tool B(2.5mm). Remove part ③.  
使用T型板手2.5mm拆開皿型螺絲 4只，將軸封蓋取下。

Remark:  
\*Tool B



## Step 4



Fig. 4-1 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



## Step 5



Fig. 5-1 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。

Remark:

## Step 6

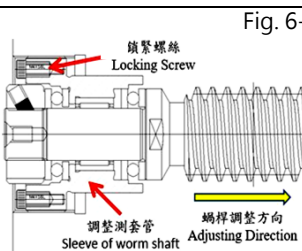


Fig. 6-1 If the backlash too large, rotate M6x50L \*2pcs on part ④ **clockwise** to reduce backlash.  
若背隙過大時，在套管座上的M6x50L螺絲 2只以順時針旋轉調整側套管來減少蝸桿蝸輪背隙。

Remark:



## Step 7

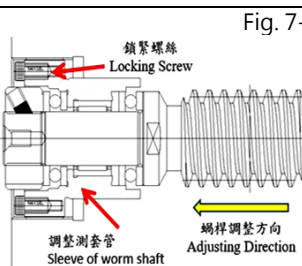


Fig. 7-1 If the backlash too small, rotate M6x50L \*2pcs on part ④ **anti-clockwise** to increase backlash.  
若背隙過小時，在套管座上的M6x50L螺絲 2只以逆時針旋轉調整側套管來增加蝸桿蝸輪背隙。

Remark:



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## Step 8

Fig. 8-1 Tighten SKT.HD.CAP.SCR \*2pcs.



鎖緊內六角螺絲M3螺絲 2只。

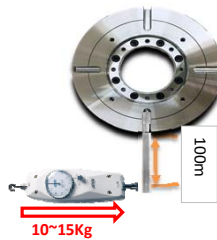
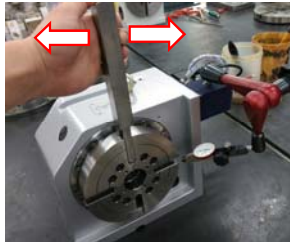
Remark:

\*Tool B



## Step 9

Fig. 9-1



- 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,如果太大或太小則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 loose 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 loose 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.

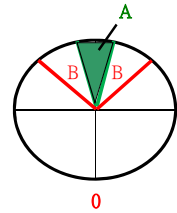
Remark:

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

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

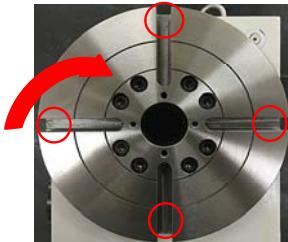
(1) A: Backlash/ 背隙值

(2) B: Flexible Deformation / 彈性變形量



## Step 10

Fig. 10-1



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°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。

Remark:

\*Tool C

\*Tool D



## Step 11

Fig. 11-1



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。

