

馬達鋼齒拆卸工具使用說明書 GWS PINION GEAR PULLER SET



- ① M3無頭內六角螺絲 M3 BAR LOCKING BOLT X1
- ② 鋼棒 BAR X1
- ③ 導引螺栓 GUIDE BOLT X1
- ④ M2無頭一字螺絲 M2 SPINDLE LOCKING BOLT X1
- ⑤ 替換式頂軸 TAIL SPINDLE X3
- ⑥ 牽引座 PULLER SEAT X1
- ⑦ 雙頭起子 DOUBLE END SCREW DRIVER X1

頂軸規格表

[TAIL SPINDLE SPECIFICATION LIST]

GP-STD 標準型

編號 SHAFT CODE	規格/直徑 SHAFT DIMENSION	馬達軸心 MOTOR SHAFT DIA
D1	1.8mm	2.0mm~2.2mm
D2	2.0mm	2.3mm~3.1mm
D3	3.0mm	3.2mm

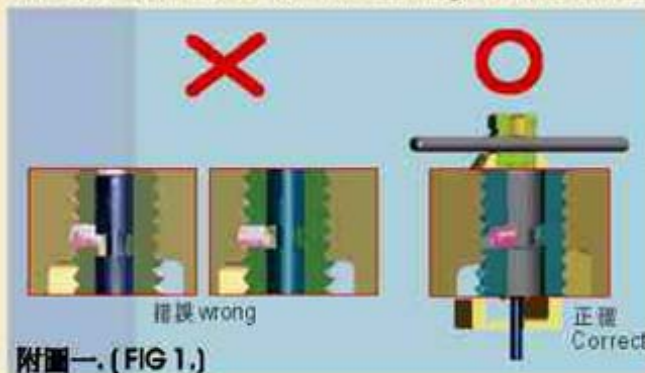
GP-Micro 微型

編號 SHAFT CODE	規格/直徑 SHAFT DIMENSION	馬達軸心 MOTOR SHAFT DIA
C1	0.9mm	1.0mm~1.4mm
C2	1.3mm	1.5mm~1.9mm
C3	1.8mm	2.0mm~2.2mm



注意事項 PRECAUTION:

- 在選擇替換式頂軸時，請先參照「頂軸規格表」的建議選用，避免使用不適當尺寸造成頂軸或齒輪的損壞。
Please refer to the "TAIL SPINDLE SPECIFICATION LIST" to select a correct TAIL SPINDLE. The wrong size TAIL SPINDLE will cause damage to either gear or the tool.
- 頂軸和螺栓組合時，M2螺絲需鎖入頂軸上的溝槽，使其在卸除齒輪時不會移動。(如附圖一)
When you are setting the M2 SPINDLE LOCKING BOLT to the GUIDE BOLT. Be sure that the LOCKING BOLT needs to be lower than the GUIDE BOLT threads, otherwise the LOCKING BOLT will damage to the thread of PULLER SEAT. [Fig 1]



附圖一。(FIG.1.)

M2一字螺絲在結合完成時必須潛入替換頂軸上端之溝痕中，否則無法固定頂軸，且會傷到牽引座的螺牙。

M2 SPINDLE LOCKING BOLT needs to lock to the groove of the TAIL SPINDLE CORRECTLY when you assemble it. Otherwise it can not fix TAIL SPINDLE and the thread of PULLER SEAT will be broken.

- 如果您要更換不同尺寸之頂軸時，把導引螺栓從牽引座退下，鬆開頂軸固定螺絲，後再依步驟二至六之程序操作即可。
When you are going to change other size of TAIL SPINDLE, please screw out the GUIDE BOLT from the PULLER SEAT, release the LOCKING BOLT and repeat step 2-6 procedures.
- 操作步驟五時，請注意確認頂軸與馬達軸心成一直線後，再繼續步驟六。此外，若您的馬達軸頂面為經過裁切，或彎曲等情形時，請小心使用(不建議使用此工具)拆卸，以免工具由於使用不當而受損壞。
On Step 5, be sure the motor shaft and TAIL SPINDLE must be aligned. To prevent the damage on the GEAR PULLER, GWS PINION GEAR PULLER is not recommended to be used on cut or bended motor shaft.
- 本產品僅為拆卸馬達鋼齒之用，請勿作為其他使用，以免造成損壞。
GWS PINION GEAR PULLER can only be used to disassemble motor's pinion gear. Do not apply to any improper use to avoid damage.
- 已拆卸之鋼齒，不建議再次使用。
Disassembled pinion gear is not recommended to be reused.

7. 以下為 **錯誤操作示範**, 供作參考:
Illustration of improper use:

1. 頂軸頂到銅齒

TAIL SPINDLE touches pinion gear.



2. 頂軸與馬達軸不成水平

TAIL SPINDLE and motor shaft not aligned.

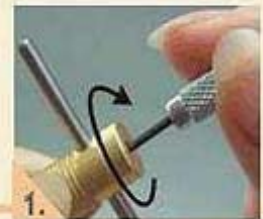


📖 操作步驟 INSTRUCTION:

步驟一.
Step 1.

把②橫桿穿入③導引螺栓上方的圓孔後，以①M3無頭內六角螺絲，從頂部螺絲孔鎖入固定。

Put the BAR into the hole of GUIDE BOLT and use the DOUBLE END SCREWDRIVER to lock it by M3 BAR LOCKING BOLT.



步驟二.
Step 2.

選取適合的⑤替換型頂軸，放進步驟一組合好的螺栓下方槽孔中，此時要留意頂桿上的溝槽是否對準螺栓側端的螺孔位置。

Select a TAIL SPINDLE you need and put it into the GUIDE BOLT, be sure the (M2 screw)hole of GUIDE BOLT has to aim at the groove of TAIL SPINDLE.



步驟三.
Step 3.

使用④M2無頭一字螺絲，將頂軸固定於螺栓中(配合**注意事項2.**之說明)。

Secured the TAIL SPINDLE to GUIDE BOLT by M2 SPINDLE LOCKING BOLT. (Please refer to **PRECAUTION 2.**)



步驟四.
Step 4.

把組裝完成之導引螺栓旋入⑥牽引座。

Screw the GUIDE BOLT to PULLER SEAT.



步驟五.
Step 5.

把要拆卸的馬達銅齒，置入牽引座的U型槽中(如圖片所示)。將螺栓旋轉到頂軸碰到馬達，並確定銅齒平貼於牽引座內側而且頂軸與馬達軸心成一直線。

Place the motor inside of the PULLER SEAT and let the gear shaft lay on the U section of PULLER SEAT. (Please refer to picture.) Screw TAIL SPINDLE firmly to touch motor shaft face to face and be sure of TAIL SPINDLE and motor shaft aligned.



步驟六.
Step 6.

繼續將螺絲旋入，直到銅齒和馬達軸脫離。

Keep on screw in the GUIDE BOLT until the pinion come out from the motor shaft.

