



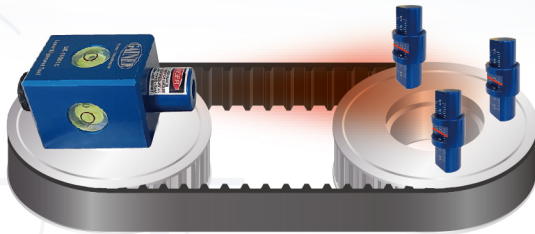
Power Transmission
2020台灣製造精品獎

皮帶輪 雷射對心儀

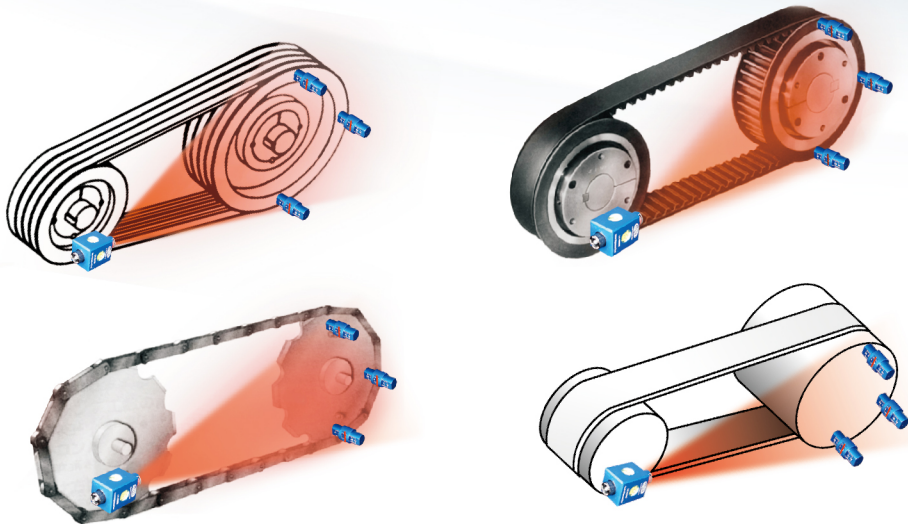
*Belt Pulley
Laser Alignment Tool*



立式傳動的應用 立式传动的应用
Application of vertical transmission



Application of radial transmission 徑向傳動的應用 徑向传动的应用





Belt Pulley Laser Alignment Tool

1. Alignment Tool Instruction

- 1.1 Place GAINER® belt pulley laser alignment tool on the wheel (A) by the motor side.
- 1.2 Measure the difference of the widths between two wheel edges. Adjust 3 calibrator scales to the actual centering points.
- 1.3 Place the 3 calibrators on the 3, 6 and 12 o'clock position on the wheel (B).
- 1.4 Turn the power on. Then, project the laser line on the calibration targets.
- 1.5 Inspect the 360° level vial and calibrators adjust them until alignment.
- 1.6 Recommend wearing auxiliary glasses under strong sunlight or outdoor environment.

2. Adjustable Calibrator Instruction

The design of the adjustable calibrator is to meet the calibrator tolerance when it has different widths between two pulley edges. Basically, when it has the same width between two pulley edges, the calibrator scale is "0", and that is the actual centering point. As shown in the figure1.If it has different widths between two pulley edges, please refer to the example!

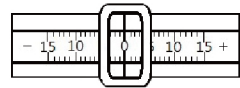


Figure 1

Description of drawing symbols:

A = driving pulley

B = driven pulley

W = pulley edge width

Example 1

$AW - BW = +5\text{mm}$

driving pulley width - driven pulley width = +5mm

The scale +5 on the calibrator is the actual centering point. As shown in the figure 2.

Example 2

$AW - BW = -5\text{mm}$

driving pulley width - driven pulley width = -5mm

The scale -5 on the calibrator is the actual centering point. As shown in the figure 3.

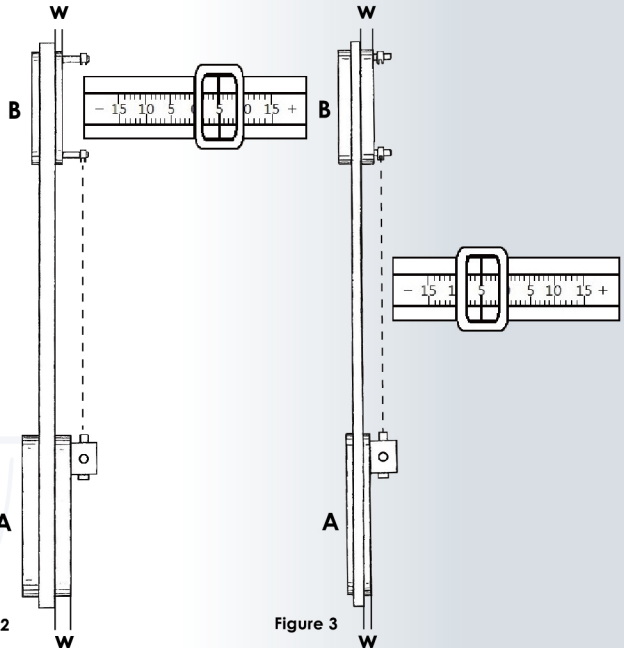


Figure 2

Figure 3

3. Adjustment to Correct Alignment

- 2.1 Horizontal angular misalignment/shafts are not parallel to one another.
 - Adjust the mounting and height of the motor or driven machinery. Inspect the device until proper alignment is achieved.
- 2.2 Axial misalignment/wheels are not parallel to one another.
 - Reinstall the wheels. Inspect the device until proper alignment is achieved.
- 2.3 Twist misalignment/horizontal angular + Axial misalignment/shaft and wheel are not in parallel to one another.
 - Adjust the parallelism of the shafts. Inspect the 360° level vial and calibrators until alignment is achieved.

4. Maximum of Misalignment Tolerance

In order to achieve better accuracy in alignment, GAINER® established the specification allowance misalignment for flexible transmission drives.

- V belt 05° (1/2 degree) 2 mm mark on the calibrators.
- Rope 05° (1/2 degree) 2 mm mark on the calibrators.
- Chain 0.25° (1/4 degree) 1 mm mark on the calibrators.
- Timing belt 0.25° (1/4 degree) 1 mm mark on the calibrators.

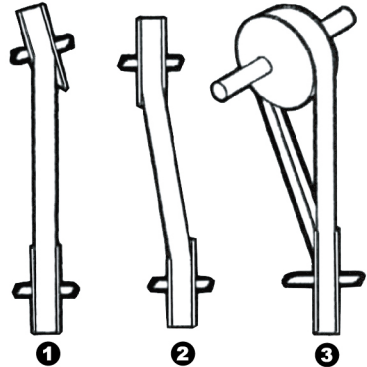
5. Notes

1. Do not point the laser directly into the eyes.
2. Avoid the device in contact with water or in a highly humid environment.
3. Please follow the local laws and regulations while using laser equipment in your area.
4. Do not take the device apart. If there is a problem with the device, please contact your GAINER® dealer.

SPECIFICATION

| | |
|--------------------|----------------------------|
| Item model | LK-15000C |
| Laser class | IIIa |
| Output power | <5mW |
| Beam angle | 78° |
| Wavelength | 630-650nm |
| Measuring accuracy | <0.5mm/0.1° |
| Temperature range | -5° ~ 50° |
| Power supply | Battery CR123A 3V |
| Operating time | 48hrs continuous operation |
| Level | 360° vial |
| Targets | 3pcs |
| Auxiliary glasses | optics glasses |
| Material | Aluminium Anodizing |
| Dimensions body | 82 x 42 x 42 mm LxWxH |
| Weight | 240g |
| Dimensions case | 235x180x70 mm LxWxH |
| Gross weight | 960g |
| Patent number | TWPAT.NO.M598949 |

TYPES OF MISALIGNMENT



1. Horizontal angular misalignment
2. Axial misalignment
3. Twist misalignment

皮帶輪雷射對心儀

一、對心方法

1. 將GAINER®皮帶輪雷射對心儀放置馬達(A)輪子上
2. 測量兩輪緣寬度差異，調整校正器之對準點
3. 校正器以3.6.12點鐘方向放置(B)輪子上
4. 打開電源，讓雷射光投射在校正器
5. 檢測360°水平儀與校正器之對準點，調整對心
6. 空曠室外與強光烈日下，建議使用輔視眼鏡

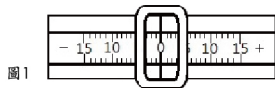


圖1

二、可調整式校正器說明

可調整式校正器的設計，是為了實現兩輪緣不同寬度時的校正補償值，基本上兩輪緣同寬時校正刻度為「0」，是實際對中點。如圖1
如果兩個輪緣寬度不一樣時，請參考範例！

附圖符號說明：

A=主動輪 B=從動輪 W=輪緣寬

範例一

$AW - BW = +5\text{mm}$

主動輪寬-從動輪寬=+5mm，

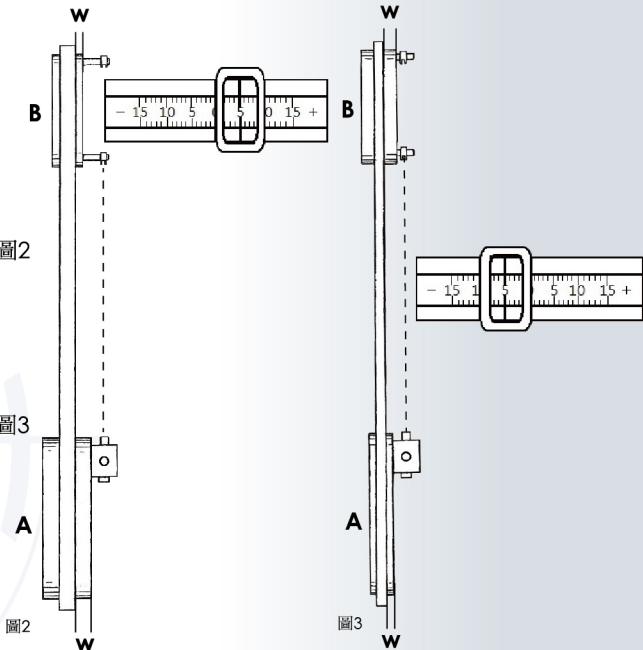
校正器上刻度+5為實際對中點。如圖2

範例二

$AW - BW = -5\text{mm}$

主動輪寬-從動輪寬=-5mm，

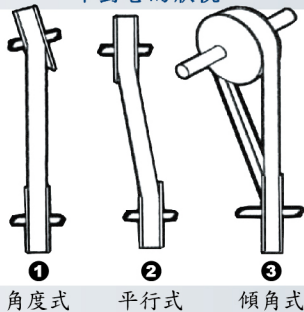
校正器上刻度-5為實際對中點。如圖3



三、不對心的問題對策

1. 角度式不對心/轉軸不平行
→ 調整馬達或被驅動機台腳座高度，重新定位調整對心
2. 平行式不對心
→ 重新定位安裝輪子，檢測校正器，調整對心
3. 傾角式不對心/角度式+ 平行式不對心/轉軸.輪子不平行
→ 調整轉軸平行度，檢測360°水平儀與校正器調整對心

不對心的狀況



四、對心的容許公差

為了更精確的對心要求，GAINER®訂定了對心容許公差規範

- V型皮帶 → 0.5° (1/2°) 校正器上2mm刻度
- 繩 索 → 0.5° (1/2°) 校正器上2mm刻度
- 鏈 條 → 0.25° (1/4°) 校正器上1mm刻度
- 時規皮帶 → 0.25° (1/4°) 校正器上1mm刻度

五、注意事項

1. 請勿把雷射光直接照射眼睛。
2. 請勿在水中使用。
3. 請注意所在地使用雷射儀器的相關管制法則。
4. 請勿任意拆解零組件有問題請洽詢 GAINER®經銷商。

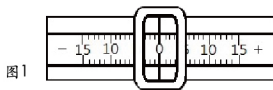
規格資料

| | |
|------|-----------------------|
| 機 型 | LK-15000C |
| 雷射等級 | Class IIIa |
| 雷射功率 | <5mW |
| 雷射型式 | 78° 扇形出光 |
| 雷射波長 | 630-650nm |
| 測量精度 | <0.5mm/0.1° |
| 操作溫度 | -5°~ 50° |
| 電池種類 | CR123A 3V |
| 電池壽命 | 連續操作48小時 |
| 水平儀 | 水準泡 |
| 校正器 | 調整刻度式x3pcs |
| 輔視鏡 | 光學眼鏡 |
| 材 質 | 鋁合金陽極處理 |
| 尺 寸 | 82 x 42 x 42 mm LxWxH |
| 重 量 | 240g |
| 外箱尺寸 | 235x180x70 mm LxWxH |
| 總重量 | 960g |
| 專利號碼 | TWPAT.NO.M598949 |

皮帶輪雷射對心儀

一、對心方法

1. 將GAINER®皮帶輪雷射對心儀放置馬達(A)輪子上
2. 測量兩輪緣厚度差異，調整校正器之對準點
3. 校正器以3.6.12點鐘方向放置(B)輪子上
4. 打開電源，讓雷射光投射在校正器
5. 檢測360°水平儀與校正器之對準點，調整對心
6. 空曠室外與強光烈日下，建議使用輔視眼鏡



二、可調整式校正器說明

可調整式校正器的設計，是為了實現兩輪緣不同寬度時的校正補償值，基本上兩輪緣同寬時校正刻度為「0」，是實際對中點。如圖1
如果兩個輪緣寬度不一樣時，請參考范例！

附图符号说明：

A=主动轮 B=从动轮 W=轮缘宽

范例一

$AW-BW=+5\text{mm}$

主动轮宽-从动轮宽=+5mm，

校正器上刻度+5为实际对中心点。如图2

范例二

$AW-BW=-5\text{mm}$

主动轮宽-从动轮宽=-5mm，

校正器上刻度-5为实际对中心点。如图3

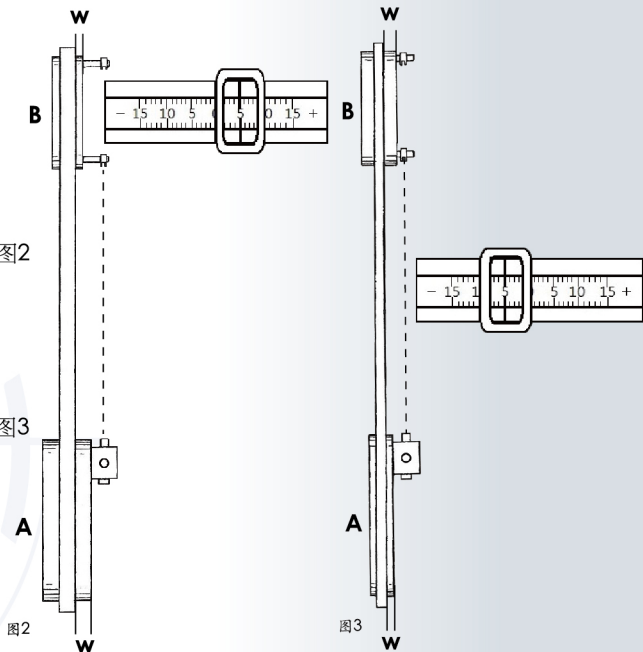


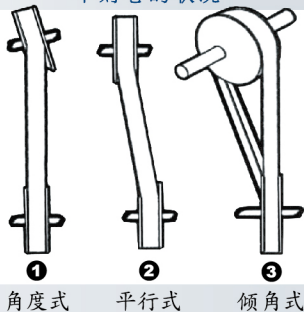
图2

图3

三、不对心的问题对策

1. 角度式不对心/转轴不平行
→ 调整马达或被驱动机台脚座高度，重新定位调整对心
2. 平行式不对心
→ 重新定位安装轮子，检测校正器，调整对心
3. 倾角式不对心/角度式+平行式不对心/转轴.轮子不平行
→ 调整转轴平行度，检测360°水平仪与校正器调整对心

不对心的状况



四、对心的容许公差

为了更精确的对心要求，GAINER®订定了对心容许公差规范

- V型皮带 → 0.5° (1/2°) 校正器上2mm刻度
- 绳 索 → 0.5° (1/2°) 校正器上2mm刻度
- 链 条 → 0.25° (1/4°) 校正器上1mm刻度
- 时规皮带 → 0.25° (1/4°) 校正器上1mm刻度

五、注意事项

1. 请勿把雷射光直接照射眼睛。
2. 请勿在水中使用。
3. 请注意所在地使用雷射仪器的相关管制法则。
4. 请勿任意拆解零组件有问题请洽询 GAINER®经销商。

规格资料

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|------|-----------------------|
| 机 型 | LK-15000C |
| 雷射等级 | Class IIIa |
| 雷射功率 | <5mW |
| 雷射造型 | 78°扇形出光 |
| 雷射波长 | 630-650nm |
| 测量精度 | <0.5mm/0.1° |
| 操作温度 | -5°~ 50° |
| 电池种类 | CR123A 3V |
| 电池寿命 | 连续操作48小时 |
| 水平仪 | 水平泡 |
| 校正器 | 调整刻度式x3pcs |
| 辅视镜 | 光学眼镜 |
| 材 质 | 铝合金阳极处理 |
| 尺 寸 | 82 x 42 x 42 mm LxWxH |
| 重 量 | 240g |
| 外箱尺寸 | 235x180x70 mm LxWxH |
| 总重量 | 960g |
| 专利号码 | TWPAT.NO.M598949 |



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