

GAINER®
POWER TRANSMISSION

Belt Pulley Alignment Tool



GL-2000

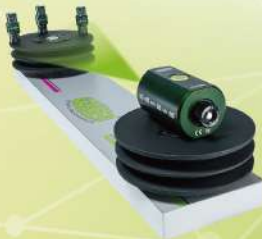
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Belt Pulley Alignment Tool GL-2000

- Precise alignment, stable power transmission, energy saving and carbon reduction!
 - Magnetic design for portability, intuitive use, and precision performance.
 - Compatible with all types of pulleys — no limitations on grooves or tooth profiles.
 - The circular 360° level solves angular misalignment of vertical transmission.
 - Adjustable calibrators addresses eccentric misalignment issues for pulleys of varying widths.
 - Misalignment pulley installation can cause belt deviation, rapid wear, and power loss.
 - Accurate pulley alignment reduces mechanical vibration, noise, while minimizing the risk of damage to other components.
- ★ The GL-2000 performs well in outdoor or daytime environments where higher visibility is required.



Horizontal Drivetrain



Vertical Drive System



GL-2000 Alignment Tool Instructions **GL-2000**

1. Place the GAINER GL-2000 Belt Pulley Alignment Tool on the pulley (A) by the motor side.
2. Measure the width deviation of the two pulleys and adjust the reference point of the alignment calibrators accordingly.
3. Position the three calibrators at the 3, 6, and 12 o'clock positions on Pulley (B).
4. Turn on the power and project the GL-2000 laser beam onto the calibration targets.
5. Inspect the circular 360° level and the laser position on the targets, then adjust the pulleys until proper alignment is achieved.



Adjustable Alignment Calibrators

The adjustable alignment calibrator is designed to compensate for alignment offsets when the two pulleys have different widths. When both pulleys are of equal width, the calibration scale should be set to "0", which represents the true alignment reference point (see Figure 1). If the pulley widths differ, please refer to the offset compensation solutions for pulleys with unequal widths, as shown in Figures 2 and 3.

Offset Compensation Solutions for Pulleys with Unequal Widths

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.

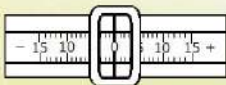


Figure 1

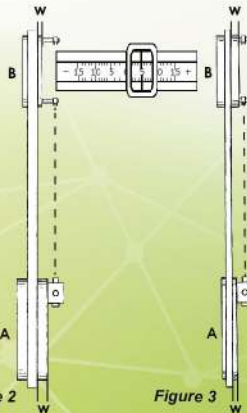


Figure 2

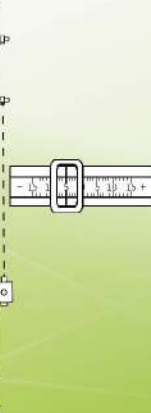


Figure 3

Pulley Misalignment Types and Solutions

Horizontal Angular Misalignment / Shafts Are Not Parallel

➤ Reinstall or reposition the pulleys. Inspect the alignment calibrator and adjust until proper alignment is achieved.

Axial Angular Misalignment / Shafts Are Not Parallel

➤ Adjust the mounting or height of the motor or driven machinery. Inspect the alignment calibrator and adjust until proper alignment is achieved.

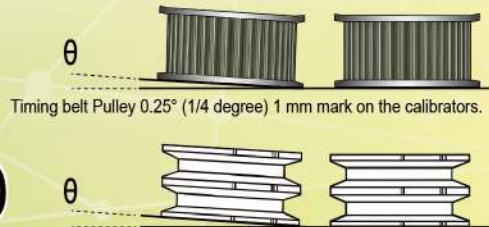
Twist Misalignment / Combination of Horizontal and Axial Angular Misalignment / Shafts and Pulleys Are Not Parallel

➤ Adjust the parallelism of the shafts. Inspect the 360° circular level and alignment calibrator, then adjust until proper alignment is achieved.

Types of Pulley Misalignment

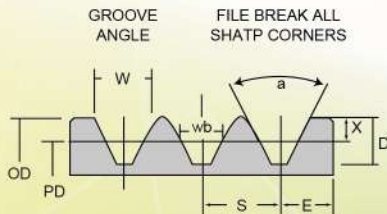


Pulley Alignment Tolerances



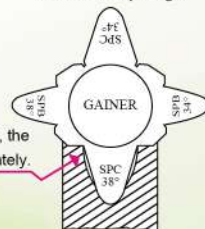
Standard Alignment Horizontal Misalignment Axial Misalignment Twist Misalignment V belt Pulley 05° (1/2 degree) 2 mm mark on the calibrators.

Belt Pulley Alignment Tool **GL-2000**



If the pulley wear exceeds 0.5 mm, the pulley should be replaced immediately.

GAINER Pulley Gauge



Standard Pulleys

Belt Section	P.D. Range	Groove angle a +/-0.5°	W +0.2/0mm	Wb	D +0.6/-0mm	X +0.3/-0mm	S' +/-0.2mm	Sum of deviations of S ²	E +/-0.3mm
SPZ	Up to 80 Over 80	34 38	9.7	8.5	11	2	12	+/-0.6mm	8
SPA	Up to 118 Over 118	34 38	12.7	11	13.8	2.75	15	+/-0.6mm	10
SPB	Up to 190 Over 190	34 38	16.2	14	17.5	3.5	19	+/-0.8mm	12.5
SPC	Up to 315 Over 315	34 38	22	19	23.8	4.8	25.5	+/-1mm	17

Belt Pulley Alignment Tool GL-2000

Specification sheet

model	GL-2000
Laser class	Class III a
Output power	< 5mw
Wavelength	500-550nm GREEN
Line thickness	1mm
Measuring accuracy	0° ± 0.1°
Battery type	CR123A3V
Continuous use	16 hours
Relative Humidity	< 90%RH non-condensing
Temperature range	- 20 / + 50 °C
Protection	IP40
Material	Aluminum alloy
Dimensions	L104xW42xH48mm
Weight	330g
360° circular level	Ø18mm
Adjustable calibrator	Ø14X42mmL *3pcs
V Belt pulley gauge	SPZ - SPA - SPB - SPC
Belt tension meter	0-150N/0-351bs
Box dimensions	L235x W180xH70mm
Total weight	1000g
Patent number	TWPAT.NO.M598949
	TWPAT.NO.M672486
	ZL 2020 2 0747333.1

Product specifications may be changed without prior notice.

Safety Precautions

1. Do not operate the device in water.
2. Avoid pointing the laser beam directly into the eyes.
3. After use, ensure the device is powered off and remove the battery for safe storage.
4. Observe local regulations regarding the use of laser devices.
5. Do not disassemble any components. For any issues, please contact your local GAINER® distributor.
6. Any discarded components of this product must be disposed of in accordance with local safety and environmental regulations.
7. Customers in EU member states must adhere to EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).
8. To ensure compliance with aviation and maritime safety regulations, the shipment does not include batteries.



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