

MOTION & CONTROL™

NSK

USER MANUAL

LASER ALIGNMENT TOOL - BELT



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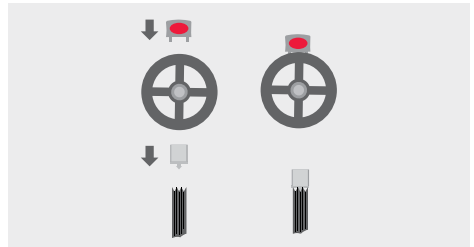
Alignment process

Pulley alignment

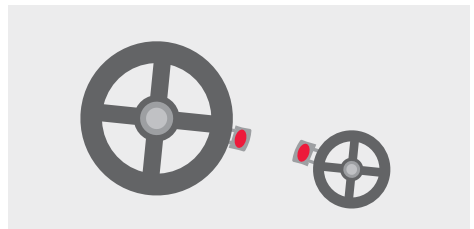
The LAB-Set uses two laser transmitters for projecting of laser lines on the opposite laser unit. By adjusting the pulleys so that the laserline coincides with the reference line on the opposite laser unit, the pulleys are aligned.

Mounting of the LAB-Set units

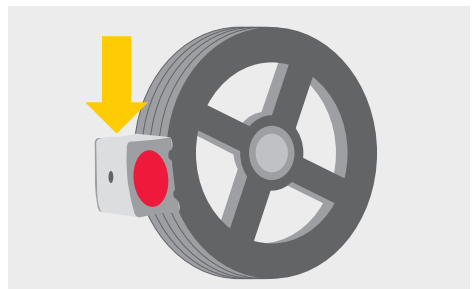
Each unit is mounted on the pulley as shown in the graphic. NOTE! The magnet, which hold the unit to the pulley, are very strong. Do not pinch your fingers!



Position both units with the spring action probes resting in the same groove on both pulleys and the units are facing each other as shown.



Ensure that the probes has settled correctly in the groove by pushing the units a few millimeters along the groove.

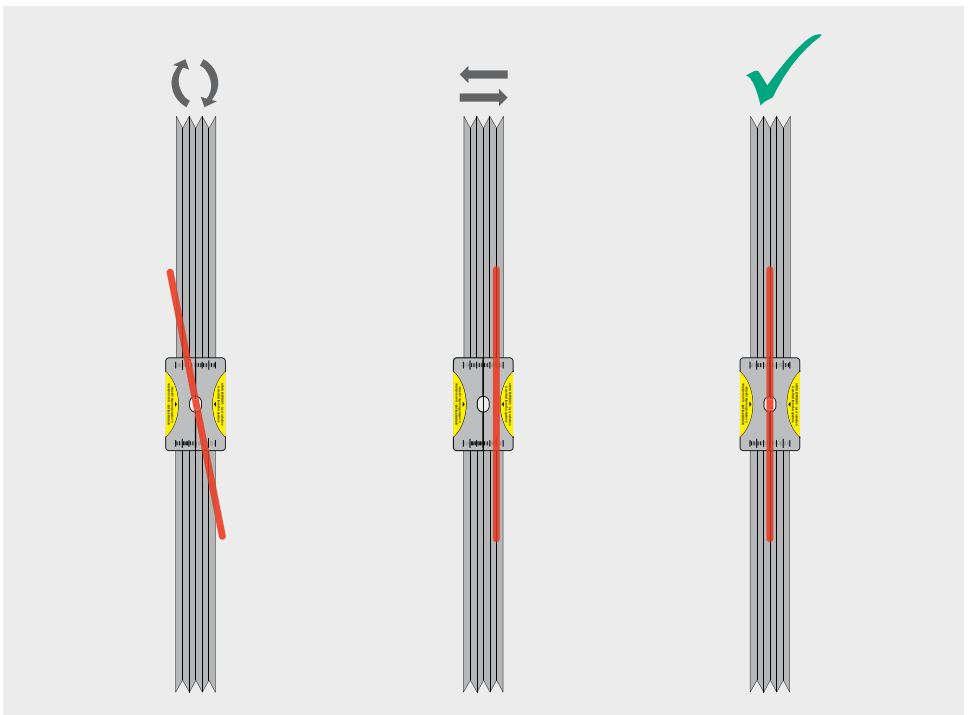


Alignment process







When the units are mounted, turn on the lasers. Each laser generates a line on the opposite unit. When correctly aligned the lines coincide with the reference marks on the labels on both units.

If the belt transmission is misaligned, start by correcting the angular error.

It is important that the pulleys are mounted correctly on the shafts and that the shafts are straight before starting the alignment process. Wobbling or warped pulleys affect the alignment quality severely.



V-guide selector

Pulley groove width (mm)	Belt profile	min \varnothing (mm)	Pulley datum diameter	max \varnothing (mm)	V-guide
6	Y/6	75		700	 1: 5-22mm short rod
8	8	75		900	
9	3V/9N	85		900	
9.7	SPZ	85		900	
10	Z/10, ZX/X10	80		900	 2: 5-22mm long rod
12.7	SPA	85		900	
13	A/13, AX/X13	80		900	
15	5V/15N	90		1300	 3: 22-40mm short rod
16.3	SPB	90		1300	
17	B/17, BX/X17	90		1300	
20	20	140	1300		
22	SPC, C/22, CX/X22	140		1300	 4: 22-40mm long rod
25	25, 8V/25N	300		1800	
32	D/32	300		1800	
40	E/40	300		1800	

Technical specification & Safety



Technical specification

Measuring units	
Housing material	Aluminium
Weight	300g/unit
Dimensions	61 x 77 x 61mm (H x W x D)
Battery type	2 x LR03 (AAA) 1.5V per unit
Operating time	50–6000mm
Measurement distance	50–6000mm
Measurement accuracy	Better than 0.5mm or 0.2 degrees
Pulley diameter range	From 75mm and larger (standard)
Pulley belt groove width	6–40mm (standard)
Laser class	2
Output power	<1mW
Laser wavelength	600–650nm

Safety

The LAB-Set uses laser diodes with a power output of less than 1.0mW. The laser classification is Class 2, which is considered safe for its intended use with only minor precautions required. These are:

- › **Never stare directly into the laser light source.**
- › **Never direct the laser into anyone else's eyes.**

Your system complies with the requirements in:

- › IEC-60825-1:2007
- › British Standard BS EN 60825-1
- › DIN EN 60825-1
- › USA FDA Standard 21 CFR, Ch 1, Part 1040.10 and 1040.11



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