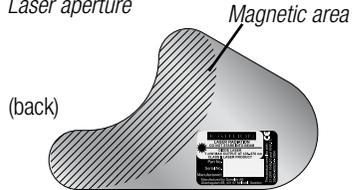
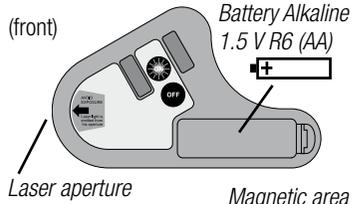


# EASY-LASER®

Easy-Laser® D90 BTA  
Sheave/Pulley Alignment Tool

## LASER TRANSMITTER



## TARGETS (2 pcs.)



**NOTE!** Before use, remove magnetism protection plate from the magnetic area.

## TECHNICAL SPECIFICATIONS

**Laser Transmitter:**  
Sheave diameters: > Ø60mm [Ø2.5"]  
Beam angle: 60°  
Measurement distance: 10m [33 feet]  
Battery type: R6 (AA) 1.5V  
Battery operation: 8 hours cont.  
Laser class: 2  
Output power: < 1 mW  
Laser wavelength: 635–670 nm  
Temperature range: -10 – +50 °C  
[14 – 122 °F]  
Housing material: ABS plastics  
Backplate: Hard anodized aluminum  
Dimensions WxHxD: 145x86x30mm  
[5.8"x3.4"x1.1"]  
Weight: 270g [8.6oz]

**Targets:** 2 pcs. magnet targets with adjustable center line.

## Calibration accuracy:

Offset < 0.2mm [0.008"]  
Angle < 0.05°

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## LASER SECURITY

Easy-Laser® BTA is a laser instrument in laserclass II with an output power less than 1 mW, which only requires the following safety precautions:

Never stare directly into the laserbeam. Never aim the laserbeam to anyone else's eyes.

**CAUTION**  
LASER RADIATION  
DO NOT STARE INTO BEAM  
DIODE LASER  
1 mW MAX OUTPUT AT 670 nm  
CLASS II LASER PRODUCT

**NOTE!** Opening the laser unit will break the manufacturer warranty.

**NOTE!** The Easy-Laser® D90 BTA should not be used in explosive risk areas.

## DISCLAIMER

FAG and our authorized dealers will take no responsibility for damages on machines and plants as the result of the use of the Easy-Laser® BTA.

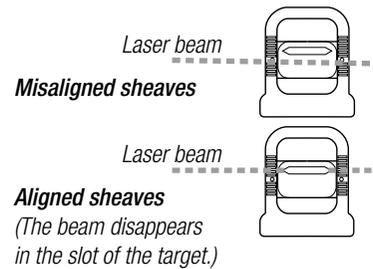
## SAFETY PRECAUTIONS

Warning! If starting the machine that will be measured can result in personal injuries, the possibility to unintentionally start it shall be disabled before mounting the measurement equipment, for example by locking the switch in off position or remove the fuses. These safety precautions should remain until the measurement equipment are removed from the machine.

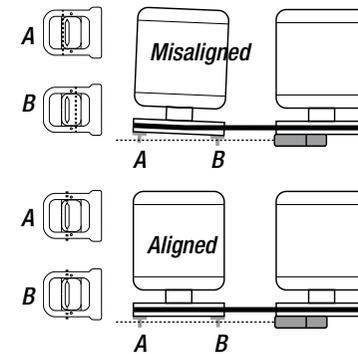
## CARE

Clean the tool and the window at the aperture with a dry cotton cloth. If not using the laser for a long period of time, remove the battery.

## THE PICTURE OF (MIS)ALIGNMENT

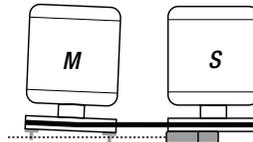


## EXAMPLE OF AN ALIGNMENT



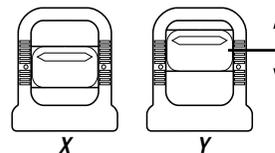
## 1. PLACING THE UNITS

The laser shall be placed at the Stationary (S) machine and the targets at the Movable (M).



## 2. DIFFERENT SHEAVE FACE WIDTH

If necessary, adjust the targets for possible difference in sheave face width before alignment. Each mark corresponds to 1 mm [40 thou].



## Example:

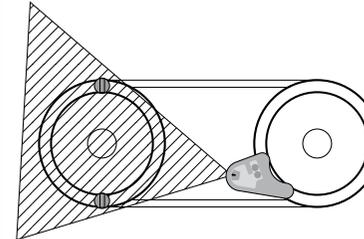
**X:** Sheave face widths equal.

**Y:** Target sheave face width 4 mm thinner than Transmitter sheave.

## 3. VERTICAL ALIGNMENT

Place the targets vertically according to the picture to check the parallelism between the sheaves. If necessary, shim rear or front feet.

If the offset is too large, move the sheave axially on the shaft until the beam hits in the center of the both targets.

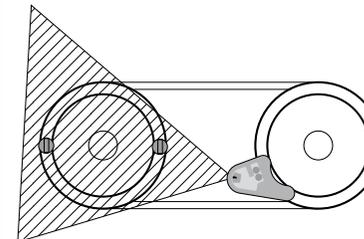


Targets placed for Vertical alignment.

Also note Transmitter placement. Adjust the Transmitter so that the laser plane hits both the targets.

## 4. HORIZONTAL ALIGNMENT

Place the targets horizontally according to the picture, and adjust the movable machine until the beam hits in the center of the both targets.



Targets placed for Horizontal alignment.

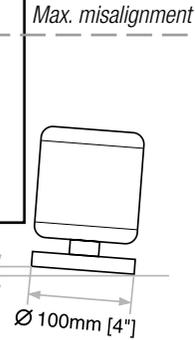
## 5. ADJUST THE BELT TENSION

## TOLERANCES

Recommended maximum tolerances from manufacturers of belt transmissions is < 0.25°. Recommendations are always dependent on belt type. Please consult the design manual of the specific belt type.

$\alpha^\circ$	mm/m mils/inch
0.1	1.75
0.2	3.49
0.25	4.44
0.3	5.24
0.4	6.98
0.5	8.73
0.6	10.47
0.7	12.22
0.8	13.96
0.9	15.71
1.0	17.45

0.44mm  
[1.76 mils]



## Example:

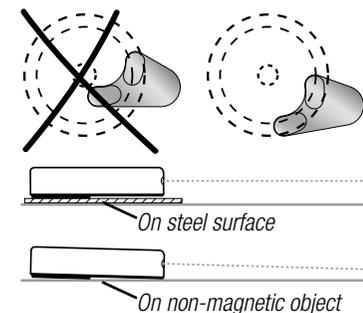
A misalignment of 0.25° is the same as 0.44mm [17.6 thou] at a distance between the targets of 100mm [4"].

## FEATURE

Attach to non magnetic sheaves. Because of the light weight of the tool and the targets you can also mount the units onto non magnetic sheaves by attaching pieces of double sided adhesive tape to the magnetical surface. Be sure that both the surface and the sheaves are cleaned from grease and oil before attaching.

## NOTE!

The product is designed to be used on sheaves/pulleys. Both of the magnetic reference surfaces must be in contact with the object.



On steel surface

On non-magnetic object