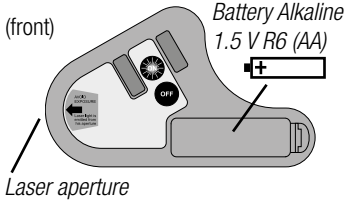
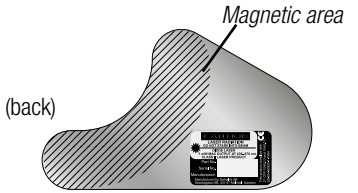
TIMKEN BELTS

LASER-ALIGN

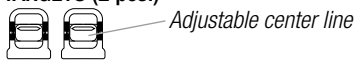
109083

LASER TRANSMITTER





TARGETS (2 pcs.)



TECHNICAL SPECIFICATIONS

Laser Transmitter:
Sheave diameters: > ∅60mm [∅2.5"]
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°

LASER SECURITY

Laser-Align is a laser instrument in laser class II with an output power less than 1 mW, which requires the following safety precautions:

Never stare directly into the laserbeam. Never aim the laserbeam to anyone elses eyes.

CAUTION
LASER RADIATION
DO NOT STARE INTO BEAM
DIODE LASER
1 mW MAX OUTPUT AT 635-670 nm
CLASS II LASER PRODUCT

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

NOTE! Laser-Align should not be used in explosive risk areas.

DISCLAIMER

Timken Belts and our authorized distributors take no responsibility for any damages resulting from the use of Laser-Align.

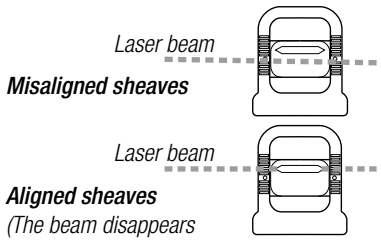
SAFETY PRECAUTIONS

Warning! If starting the machine that will be measured can result in personal injuries, the possibility to unintentially 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.

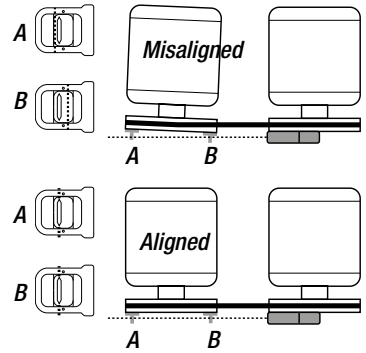
CARE

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

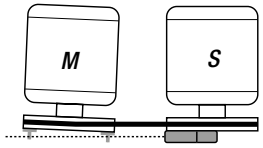


EXAMPLE OF AN ALIGNMENT



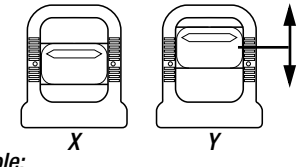
1. PLACING THE UNITS

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



2. DIFFERENT SHEAVE FACE WIDTH

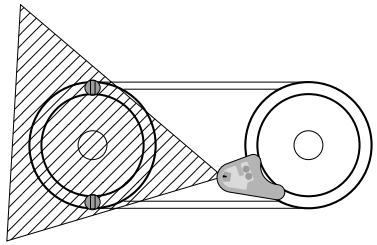
If necessary, adjust the targets for possible difference in sheave face width before alignment. Each mark corresponds to 1 mm [40 thou].



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 parallelity 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.

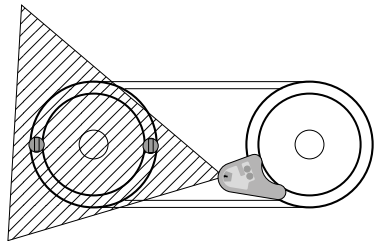


Targets placed for Vertical alignment.

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.

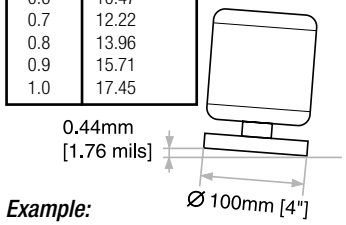
5. ADJUST THE BELT TENSION

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.

α°	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

Max. misalignment



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.