

Greatly speeds up laser alignment buck-ins.

L-103 Optical Beam Translator

for L-703 Bore & Spindle Alignment Laser System

The L-103 Optical Beam Translator is a laser-centering accessory designed to mount on the front of the L-703 laser to precisely translate (center) the laser beam for bore alignment and similar applications. It has a resolution of .0001 in. (0.0025 mm) and range of ± 0.043 in. (± 1.09 mm). The L-103 uses a parallel-sided optic to adjust the position of the laser beam without changing the angle, greatly speeding up laser buck-ins.

Applications include:

- ✦ Compressor bores
- ✦ Cylinder straightness
- ✦ Engine-block crankshaft bores
- ✦ Guideway straightness
- ✦ Gun-barrel straightness for artillery and naval guns
- ✦ Helicopter tail rotor bearing bores
- ✦ Lathe/turning center spindle alignments
- ✦ Stern-tube and shaft-bearing bores in ships
- ✦ Twin-barrel extruder to gearbox alignment

Features of the L-103 Optical Beam Translator:

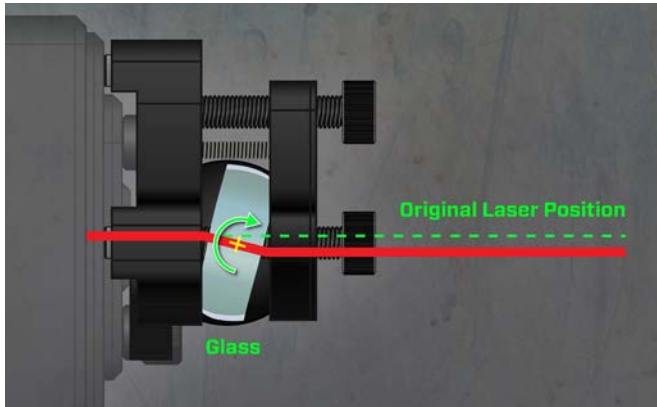
- ✦ Changes laser position to center the laser to the bore without changing angle, speeding up laser buck-in (setup)
- ✦ .0001 in. (0.0025 mm) resolution
- ✦ ± 0.043 in. (± 1.09 mm) laser beam adjustment range
- ✦ Easy installation on L-703 with a magnetic mount
- ✦ Compact and lightweight



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How It Works



The L-103 Optical Beam Translator adjusting laser position without changing its angle.

To perform certain alignments, the L-103 Optical Beam Translator is needed to center the laser beam to a reference target when using the L-703 Laser. It attaches to the L-703 by powerful magnets.

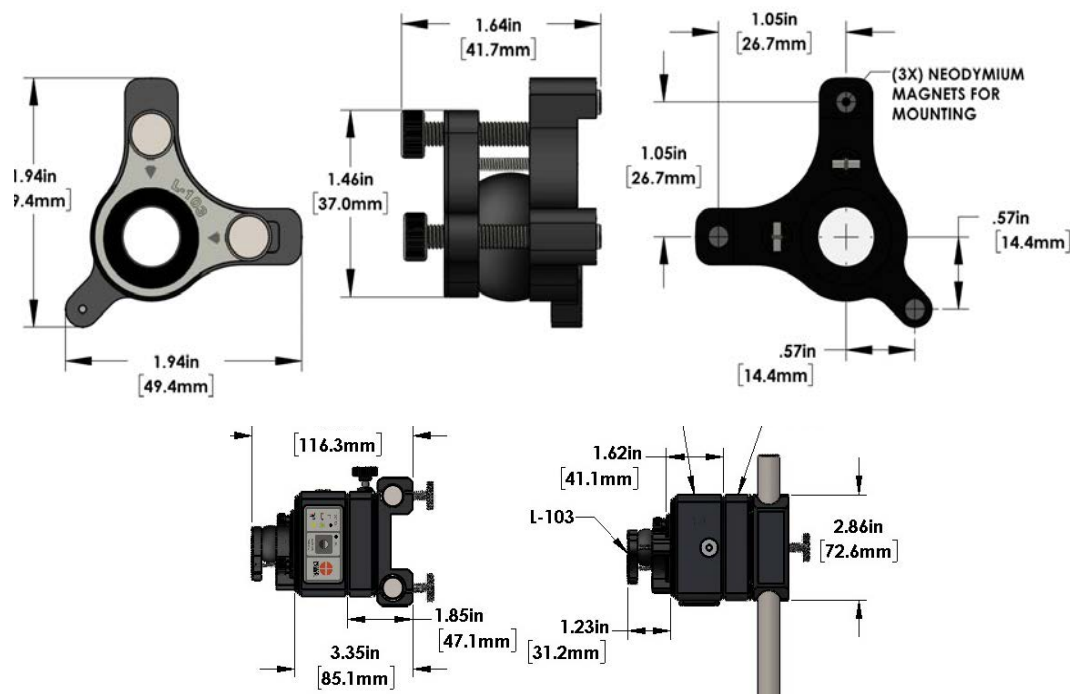
The L-103 translates (moves) the laser beam position up/down and left-right without changing the angle, greatly speeding up laser buck-ins (setups).

Here's how it works for bore alignment: The L-703/L-103 are mounted near the first reference bore. A self-centering target+adapter are placed in the first end bore and the L-103 is adjusted to center the laser beam to the target. Next, the target is moved to the far end bore and the L-703's angular adjustments are used to tilt the laser beam to the center of the target. This process is repeated until the target reads zero at both locations. The laser is now parallel to the end (reference) bores and the target can be moved to (or a second target can be placed in) the inner bores for checking alignment and/ or concentricity.

Specifications

Beam Position Resolution:	.0001 in. (0.0025 mm)
Beam Position Adjustment Range:	±.043 in. (±1.09 mm)
Mount:	Quick mount with embedded rare-earth magnets to front of L-703 Laser.
Dimensions:	See drawing
Material:	Aluminum and glass
Compatibility:	At present, can only be used with the L-703 Laser.

L-103 Optical Beam Translator



L-103 mounted to L-703 laser mounted on L-112 stand