

*To mount the laser outside bores  
in high accuracy bore alignment  
and buck-in the laser to two  
reference points.*

# L-112 Laser Mounting Stand

## for L-703 Bore & Spindle Alignment Laser System

Newly designed, the L-112 Laser Stand is used to hold our new L-703 Laser for high-accuracy bore alignment applications where it is desirable or required to mount the laser outside the bores. It has coarse pitch (vertical) angular adjustment and coarse horizontal translation adjustment to center the laser beam to the target. The L-112 is used to buck-in (align) the laser to 2 reference points. It works with the L-103 Optical Beam Translator, which optically centers (translates) the laser in 2 axes to the near reference bore. The L-112 can also be used with the L-700 Laser.

The L-112 comes with 2 mounting orientations: a) on horizontal surface, or b) on a vertical surface, such as a flange of a bore. It has 11.4 in. (290 mm) posts that with optional extensions to position the laser near the center of bores from 2 in. (51 mm) to 24 in. (610 mm) in diameter.

### *Applications include:*

- ⊕ Compressor bore concentricity
- ⊕ Cylinder straightness
- ⊕ Engine-block bore concentricity
- ⊕ Extruder-barrel straightness
- ⊕ Gun-barrel straightness
- ⊕ Guideway straightness & flatness measurements
- ⊕ Locomotive engine bore concentricity
- ⊕ Marine diesel engine-bore concentricity

### *Features of the L-112 Laser Stand:*

- ⊕ 275 lb. (125 kg) holding-force magnetic base and 11.4 in. (290 mm) posts
- ⊕ Two mounting orientations:
  - Horizontal surfaces
  - Vertical surfaces, such as bore or gearbox flanges
- ⊕ Coarse pitch (vertical) angular adjustments with:
  - A range of  $\pm 0.61$  in/ft ( $\pm 50.8$  mm/m) for Pitch (vertical)
  - Resolution of  $\pm 0.0006$  in/ft (0.05 mm/m)
- ⊕ Coarse vertical translation of  $\pm 4.27$  in. (108 mm)
- ⊕ Coarse horizontal angular adjustment by rotating the magnetic base.
- ⊕ Coarse horizontal translation adjustment with:
  - A range of  $\pm 0.20$  in. ( $\pm 5.1$  mm)
  - Resolution of  $0.0001$  in. (0.0025 mm)
- ⊕ Uses the L-103 Optical Beam Translator for high-resolution laser beam centering to bore centerline.



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# Specifications

Angular Adj. Range:	$\pm 3.0^\circ$ ( $\pm .61$ in/ft or $\pm 51.0$ mm/m) - vertical (pitch) only. (Note: rotate the mag base for coarse horizontal angular adjustment)
Angular Resolution:	.0006 in/ft (0.05 mm/m) - vertical (pitch) only
Translation Range - Horizontal:	$\pm .20$ in. ( $\pm 5.1$ mm) using the horizontal translation stage
Translation Resolution - Horizontal:	.0001 in. (0.0025 mm) (Note - L-103 has .000025 in. translation resolution)
Translation Range - Vertical:	$\pm 4.27$ in. (108 mm) by sliding L-112 up/down the posts
Translation Resolution - Vertical:	.010 in. (0.25 mm) by sliding L-112 up/down the standard 12 in. (304 mm) posts (Note - L-103 Optical Beam Translator has .000025 in. resolution)
Dimensions - Laser Fixture:	See drawing
Weight - Laser Fixture:	15 oz (0.43 kg)
Dimensions - Posts:	14.51 in. (368.3 mm) tall with 2.50 in. (63.5 mm) center-to-center post spacing, 3.12 in. (79.3 mm) spacing OD to OD.
Weight - Mag Base/Posts:	9.75 lbs (4.42 kg)
Dimensions - Mag Base:	3.13 H x 2.75 W x 2.75 L (79.5H x 70.0W x 70.0 W mm)
Mag Base Holding Force:	275 lbs. (125 kg)

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