

LASER BEAM ALIGNMENT

Laser beam alignment requires working with an open beam and directing the beam toward a series of reflective or partially reflective surfaces, so that the beam follows a predetermined path. Beam alignments may be internal or external.

Internal alignments occur within the laser cavity and often place the worker at increased risk of electrical accidents as well as beam exposure. The need for internal alignments arises most often because of problems associated with beam mode or power.

External alignments occur from the laser's end window to some terminal target (beam stop). In between those two locations may be a number of optical components in various configurations that may be simple or complex. The need for external alignments arises because of requirements for an initial setup, reconfiguration, or replacement of components in the beam path. External alignments include optical table, laser-to-fiberport, fiberport-to-fiberport, freespace delivery, beam-to-sensor, and laser therapy.

MANDATORY PRACTICES

1. Alignments shall only be performed by those who have received laser safety training
2. A Class 3B or Class 4 laser controlled area (LCA) shall be established
3. Restrict area to only those personnel involved in laser beam alignment
4. Laser eye protection must be worn (alignment eyewear, or operational power eyewear)
5. Wear PPE: face shields for scattered UV & skin protection as necessary
- 6.