Instruction Sheet

Aligning the PASCO Model OS-9171 Laser with the OS-9172 Alignment Bench

The Helium Neon Laser

The helium neon laser is a 0.5 mW, TEM_{00} mode laser, providing randomly polarized light at a wavelength of 632.8 nm. The built-in power supply is regulated so the output has minimum ripple and the intensity is stable to within ±2.5%. A 15 minute warm up is required to reach full power, but the power on start-up is greater than 0.35 mW. If you'd like more technical specifications, and a detailed explanation of laser operation, see the instruction manual that's included with the laser.

Caution: This is a relatively safe, low power laser. Nevertheless, we strongly recommend the following precautions:

1. Never look into the laser beam, either directly, or as it is reflected from a mirror.
2. Set up experiments so the laser is either above or below eye level (for both sitting and standing people).

To Set Up the Laser using the Laser Alignment Bench:

The laser is most conveniently aligned using the laser alignment bench, which can be joined to the optics bench using the bench couplers. The procedure is as follows:

1. Place the optics bench and the laser alignment bench end to end, as shown in Figure 1. Notice that only one end of the laser alignment bench has holes for two leveling screws. That is the end that joins to the optics bench.
2. Remove the four leveling screws on the adjoining ends of the two benches.
3. Use the 1/4-20, hex-head screws that are included with the bench couplers to attach the couplers to the legs of the benches, as shown. Do not yet tighten the screws.
4. Insert one of the leveling screws, rubber foot down, through the threaded hole in each coupler.

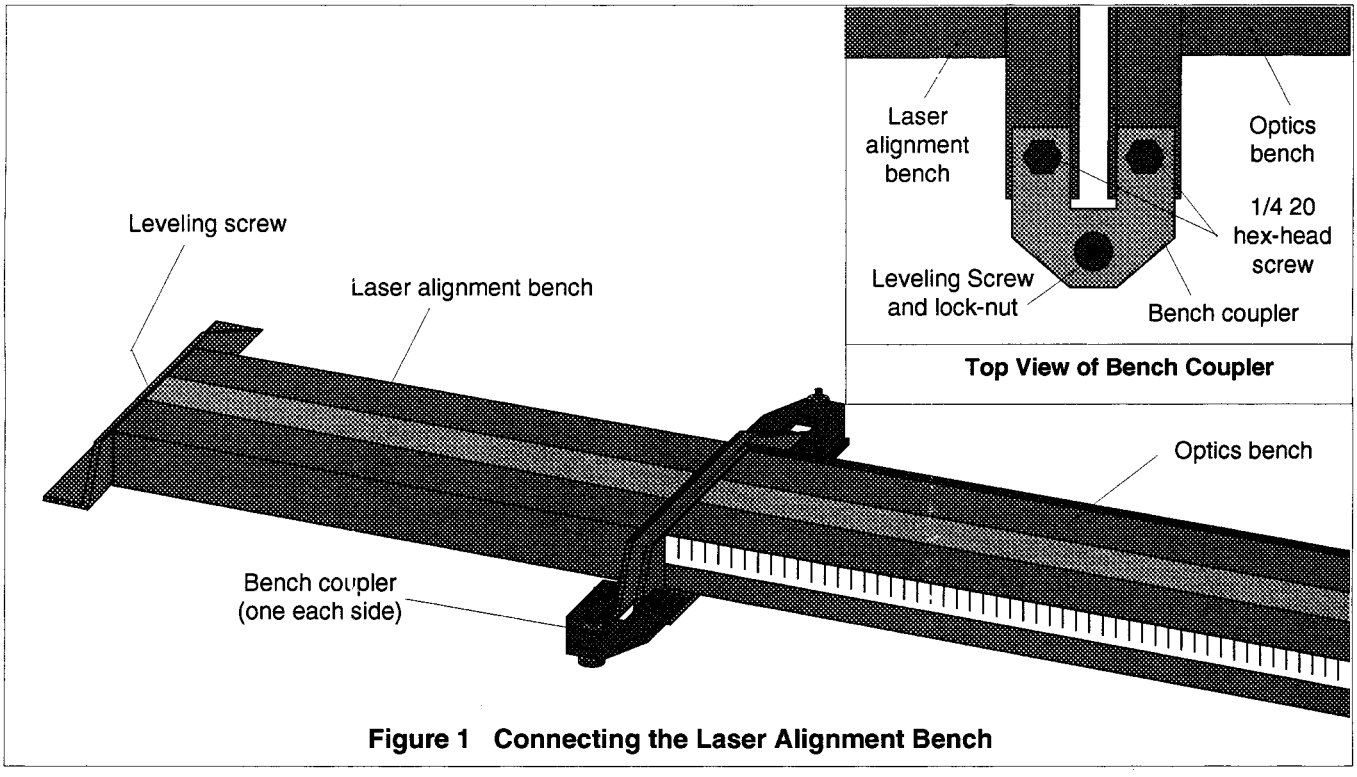

Figure 1 Connecting the Laser Alignment Bench

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