

LABURN2 Laser System Instructions

10 to 20 Watt TEM00 CO2 10 Micron Laser System

The LABURN is a complete self contained 10-20 watt TEM00 continuous output 10 micron CO2 laser system excellent for engraving or cutting thin plastic, cloth, paper, wood etc. System is turn key ready complete with water cooling in an attractive 23" x 8" x 3 1/4" enclosure with a transparent cover. Console panel contains all controls including a tube current meter for power output adjusting. Device is powered by either 115 vac or our optional portable battery and inverter module. System is in full compliance for sale and use. It is available as a kit or ready to use system.

Operation of this laser requires eye safety goggles. Most plastic safety goggles can be used with caution. Never look directly into the laser beam!!

1. Unpack and check for any damage.
2. Set up laser as shown on a table or other flat surface. Note to carefully remove the cotton swab over the output mirror as shown in fig 1. See note on cleaning and protecting this mirror.
3. Verify the proper operation of the cooling system as shown on fig 2. Systems are shipped with water but always should be re-checked. ***This is a very important step!!***
4. Obtain a block of wood for the test target and place about 12 to 18" from the laser output aperture.
5. Open the aperture cap and put on your safety glasses.
6. Turn the KEY SWITCH as shown on fig 3 to the first notch noting the cooling pump coming on. Turn the "POWER ADJUST control cw until it clicks on and note the red indicator LED coming on.
- *7. Push the START push button switch and note about 10 seconds before the EMISSION indicating lamp comes on. Note the meter indicating a slight reading indicating laser tube current. You will also note a faint purple glow in the discharge cavity of the laser tube.

*Note hat if the system has a second push button switch for the portable model that it two must be activated or the BEAM ON/OFF switch on the front panel must be in the ON position.

8. Adjust POWER ADJUST to mid-scale on meter noting the wooden target burning and flaming. Adjust the power level as required.

Output optics:

The laser output mirror should be cleaned using acetone and a cotton swab or Q tip every time before firing up the laser.

A dry piece of cotton should be placed over the lens when not in use. Lens must never get wet!! Always dry out if on a humid day.

Optional focusing lens:

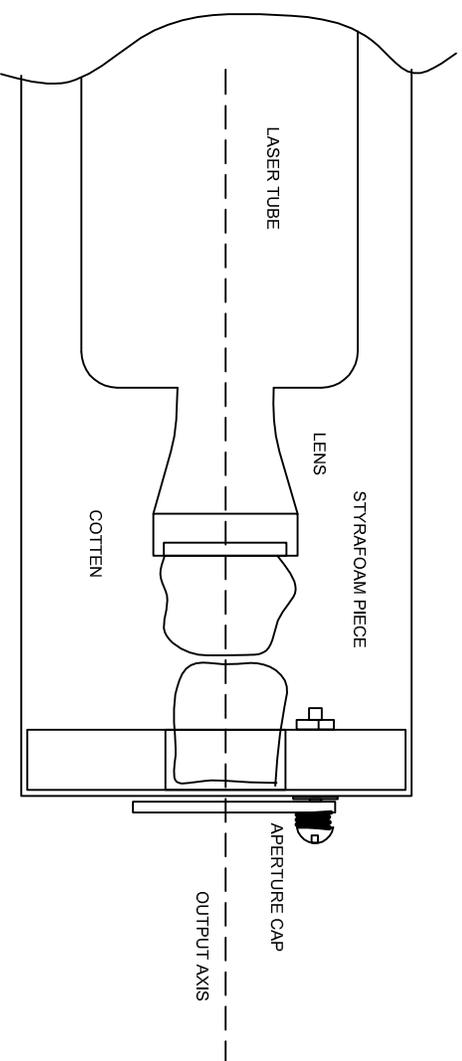
The focus tube and lens as shown on fig 4 will focus the laser energy onto a fine point allowing very high temperatures and precise cutting. The impact point on the target object will glow like a miniature sun!!

Cooling system:

The laser cooling method uses a closed water circulation system utilizing a pump being controlled by the laser input energy. The more laser power the faster the pump circulates. It is very important to check the air bubble in the laser tube. This bubble should not be any more than 3 inches long after laser has set for several minutes. Observe by tilting the laser head up and noting the bubble. If it gets larger system must be bled as outlined on "bleeding the system".

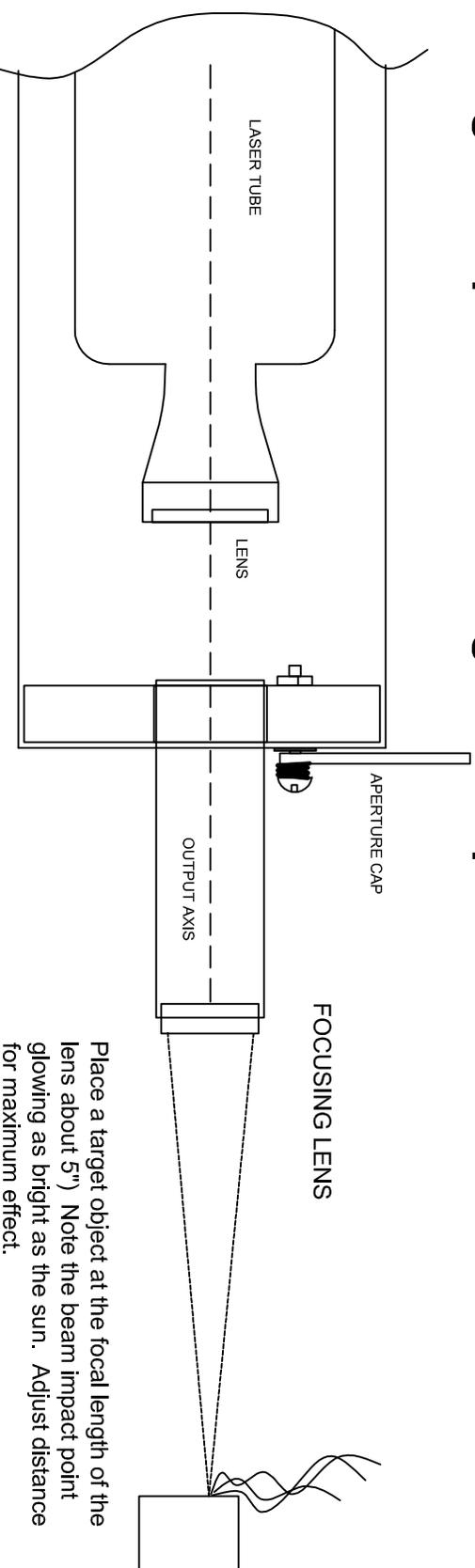
It is very important there is absolutely no leaks!!!!!!!

Fig 1 Output end showing protective cotton for long term storing



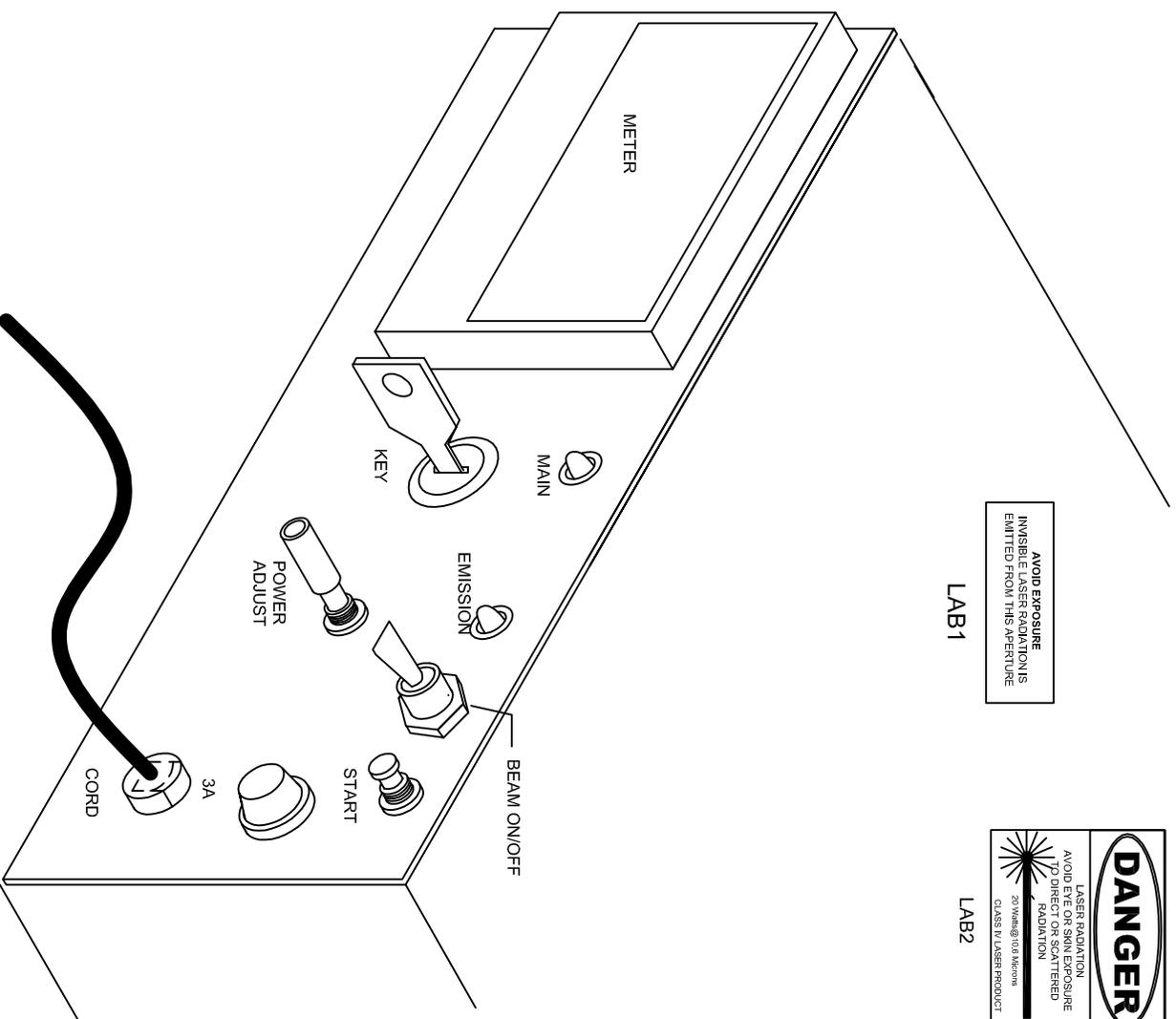
The output lens should be protected with a piece of clean dry cotton if not used for long periods. Hold the cotton swap in place using a piece of Styrofoam or foam secured against the aperture cap.

Fig 4 Output end showing focus optional lens



Place a target object at the focal length of the lens about 5") Note the beam impact point glowing as bright as the sun. Adjust distance for maximum effect.

FIG 3 Front panel showing controls



AVOID EXPOSURE
INVISIBLE LASER RADIATION IS
EMITTED FROM THIS APERTURE

LAB1

DANGER
LASER RADIATION
AVOID EYE OR SKIN EXPOSURE
170 DIRECT OR SCATTERED
RADIATION
20 WAVELENGTH @ 103 MICROMETERS
CLASS IV LASER PRODUCT

LAB2

Manufactured By
INFORMATION unlimited
PO Box 716 AMHERST N.H. 03031
Model Number
Serial Number
Manufactured Date
This laser product conforms to the provisions of
31CFR 104.40 10 and 104.40 11

LAB3

DANGER
HIGH
VOLTAGE

LAB4

Compliance Check

- * Check key switch operation
- * Check delay and power reset operation
- * Check key switch operation
- * Check emission indicator
- * Check aperture cap
- * Check labeling as above
- * Serialize and record with date

