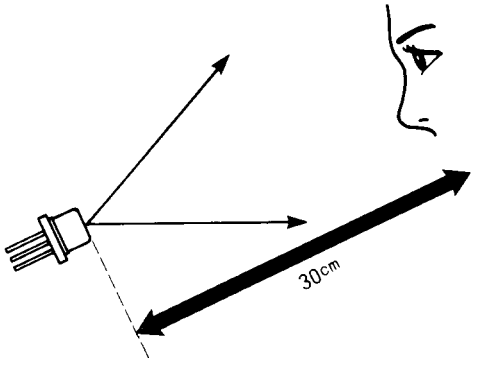
Safety

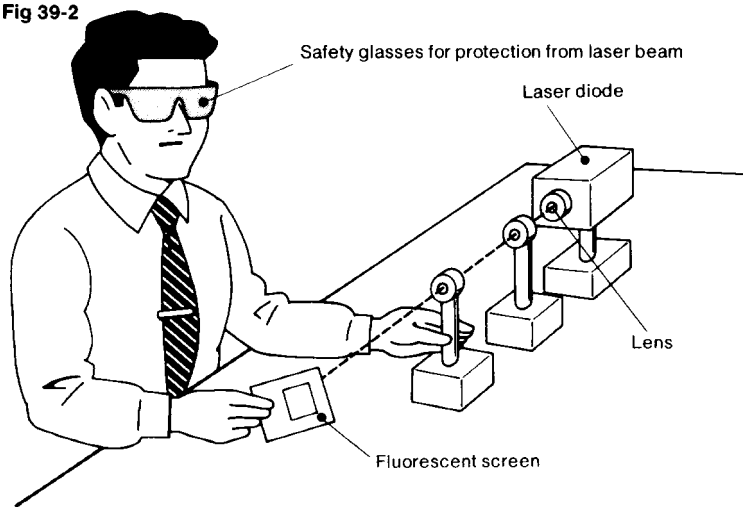
Although the beam emitted by these laser diodes is nearly Invisible, it may cause severe damage to the human eye. When the laser is being operated, the emitting surface must not be viewed either directly or through a lens, fiber, or mirror.
To adjust the optical axis of the laser and peripheral devices, use an Infrared-sensitive ITV camera (e.g. silicon vidicon) to monitor and adjust the laser.
The angle of radiation of a laser diode beam is large, so even if the emitting surface is observed straight on as shown in Fig. 39-1, only a small percent of the entire light will enter the eye. However, sufficient caution must still be used since the wavelength (750 830 nm) of the light is not in the visible spectrum. Particularly when

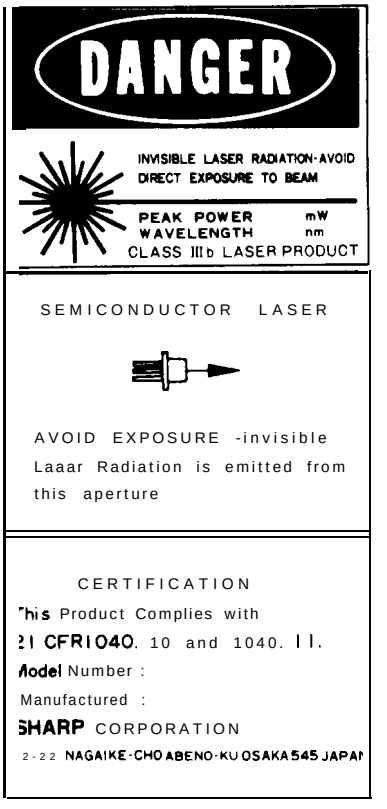
Fig 39-1



the light is collimated through a lens, safety glasses such as those described in the reference should be worn and care should be taken to absolutely prevent the beam from directly entering your eyes
When adjusting the optical axis of the laser beam, it is recommended that an IR scope or a fluorescent screen that converts infrared light to visible light be used. (See Fig, 39-2 and the reference)

Fig 39-2





Reference

(1) Protective Glasses for Laser
Though laser diode beams are nearly invisible to the naked eye, they can cause severe damage if they enter the eye It is recommended that protective glasses be worn when performing optical axis adjustment, etc
Example :
- Fled Reed Optical Company
- Glendale Optical Company
  Protective glasses for Nd lasers, GaAs lasers, and ruby lasers

(2) Infrared Visible Screen, IR Scope
Even when collimated, laser diode laser beams are difficult to see with the naked eye It is therefore recommended that an infrared visible screen that converts infrared light to visible light or an IR scope be used to make optical system adjustments easier.
Example Infrared Visible Screen
- Kodak Corporation
  IR scopes for GaAs lasers and LEDs
- Hamamatsu Corporation
  C2250
- FJW Industries
  Find-R-Scope