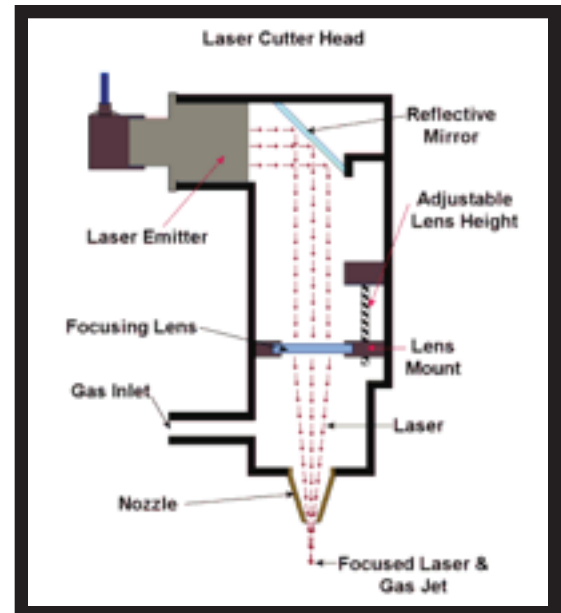


HOW TO:

Robotics & Lasers

Laser Printers

Laser cutting is a technology that was invented in the 1960's. The machine uses a laser to cut many materials like wood, metals, and even diamonds! It creates any shape or design you program it to do. Laser cutting works by directing the output of a high-power laser most commonly through optics. It is usually used for industrial manufacturing but engineers, artists, and even you can use it, too!



Robotics

Although you may not realize it, robots are already an integral part of life as we know it. Robots are used in anything from building cars to keeping our country safe. One important job for a robot is to "sniff" out bombs so that humans don't have to endanger themselves. This can be achieved with the Vaporsens detector. This sensor uses conductive nanofibers to "smell" bombs or drugs. The robot is small so it can fit into small spaces where a bomb might be hidden.

One way that students can get involved with robotics is through a FIRST robotics program. These are Jr. FIRST Lego League (ages 6-9), FIRST Lego League (age 9-14), FIRST Tech Challenge (grades 7-12), and FIRST Robotics Competition (grades 9-12). In each of these programs, students are given a game that they must build a robot to compete in. This year, the FIRST Tech Challenge game is called Cascade Effect and mainly consists of scoring two different sizes of balls in different heights of goals.

