ROS Overview
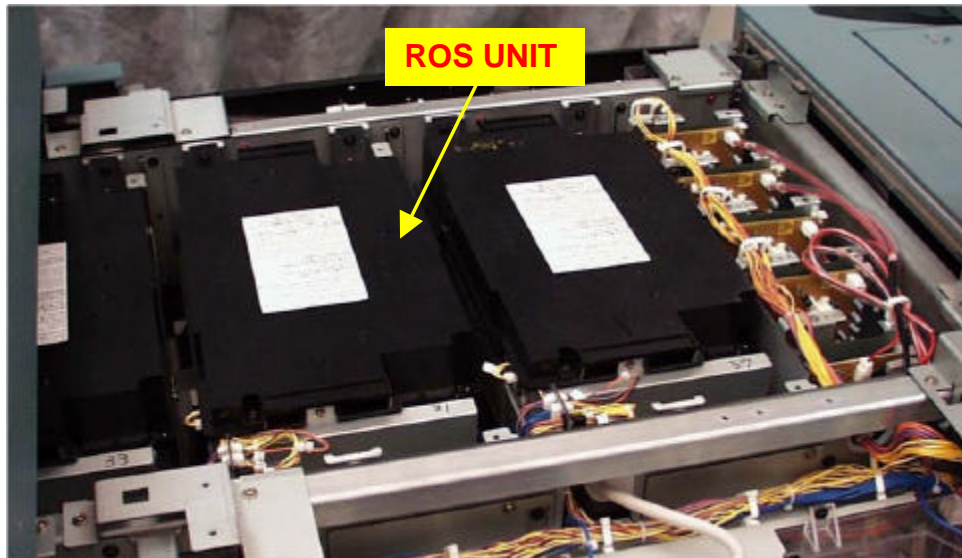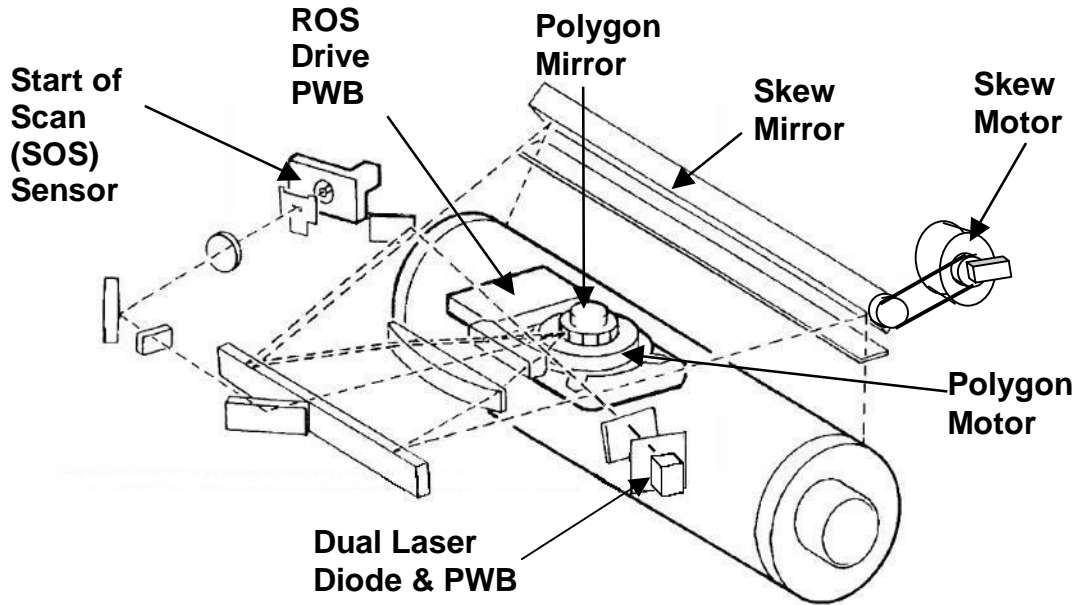
Raster Output Scanner (ROS) Units

Four ROS Units (Y, M, C, and K) are utilized to generate the Laser Beams used to expose the four Xerographic Drums. All four ROS assemblies are the same and each unit contains all the components required to generate the Laser Beam and to scan the Drum. Each Xerographic Unit and all of the related ROS components are activated at the time in which that color image is processed.

ROS Overview (Continued)

Because of the high degree of positional accuracy required by the inner mechanisms of the ROS Assembly, the ROS cover should not be removed. If a fault is detected with the unit, the ROS should be replaced. Major components of the ROS Unit are:

ROS Overview (Continued)

The **ROS Drive PWB**, inside the unit, contains the phase lock loop control for the **Polygon Motor.** The motor is a brushless DC motor which drives the Polygon Mirror.

The **Laser Diode PWB** contains the **Laser Diode** (dual type) which produces the laser beam and a photodiode for monitoring laser beam brightness. The laser beam is emitted from the Laser Diode and reflected to the Polygon Mirror by a mirror.

The **Start of Scan (SOS) Sensor** is a photodiode which senses the laser beam at the extreme end of the scan. The SOS Sensor produces a signal to synchronize the scan lines.

The **Polygon Mirror** has eight mirror segments and rotates at a high rate of speed (15,583.29 rpm). The incident and reflection angles of the laser beam changes as the Polygon Mirror rotates, providing raster scanning of the image data. After the laser beam is reflected from the Polygon Mirror, it is projected by a series of mirrors and lenses onto the rotating drum surface.