

**The Objective:**

The customer used 3 balancing machines to balance rotors and 3 milling machines per line to correct the imbalance by weight removal. Time studies revealed that the same production could be accomplished with only 1 set of balancing and milling machine.

**The Challenges:**

The balancing machine pointed out the angular location of imbalance and displayed the value. The operator placed the component in the milling machine and by experience fed the rotating cutter to remove material. In order to verify the result he would put it back in the balancing machine to verify and remove more weight if required. This happened 3 times per component. The major challenge in this process was that the dimension tolerance on the component diameter would in many cases be the value of the feed required to be given to the milling machine.

**The Solution:**

NextFirst developed a milling machine with a controller, such that the operator has to load the component and enter the milligram value of the weight to be removed. The algorithm built in the milling machine would convert the milligram weight input into the millimeter feed of the cutter. Based on an innovative servo feedback mechanism the starting point of the cutting operation was determined for each component.

**The Outcome:**

100% First shot OK imbalance correction. Customer was able to free up 2 sets of balancing and milling machines and utilized them for future capacity expansion.