# FeedBack

## Solo Surveying

In response to the "Attitudes of Independence" article [Winter 2004], why run an entire article on the Robotic only to dismiss it in the final paragraph? I own a small surveying firm that uses Trimble Robots and Topcon GPS. In my opinion there is no better solution. But I do not work alone!

Working alone is no fun. That's why we do this isn't it? Having a skilled employee to assist is a must. Now I could do most of the work myself, but it takes me three to four times as long to do anything and I can't make money like that.

The robot is the best instrument I've ever used in the woods. It can get shots that I could never see through the scope. But, I have someone pointing the instrument at me when doing this and it just locks on. When I topo, I have the data collector and my partner has the rod. Ever carry a rod with a radio and a data collector all day? There have been times I topoed by myself.

Using our custom-made data collector (HP 49) I topoed 1000' of roadway from back of walk to back of walk, 75% of it curve at 25' sections in one hour. All line worked and coded separate. Ever use a robot for levels? It can't be beat. I haven't used a level in over a year. And that was to check what I was doing with the robot. I'm going to stop now. This could go on for a while . . .

*Robert Martin, LS*
*Via the Internet*

*Editor Replies: You state your point well. My interpretation of the final paragraph of that article, however, was that the author was simply sharing "the rest of the story" concerning two individuals and their experiences with robotics.-MC*

## Heliotropes

I enjoyed the very interesting article regarding heliotropes by Silvio Bedini [November 2004]. This article brought back some recollections of the period when I was working for Fairchild Aerial Surveys in the early 1960s in Los Angeles. Fairchild Aerial Surveys was in the aerial photography and mapping business from the early 1920s until they were acquired by Aero Service Corporation of Philadelphia in about 1965. During a brief time between field assignments, I was assigned the task of cleaning out some of the old storage areas in the headquarters building in downtown Los Angeles. It was there that I ran across some of these very unique heliotropes.

Their parent company, Fairchild Camera and Instrument, had constructed some automatic heliotropes (Fairchild Aerial Surveys Automatic Heliotrope) probably during the 1930s. They consisted of a geared motor driven base section about 8" in diameter that was usually mounted on a fairly heavy tripod. The revolving base had an upright section containing four mirrors which revolved about a horizontal axis on standards about 10" above the base. The mirrors were about 3" or 4" square. The base had a solar activated switch that only energized the unit when the sun was shining. The unit was covered with a primitively constructed clear Plexiglas type material that consisted of a wire sewn cylinder section capped by a wire sewn dome section. Some of the later units had cemented Plexiglas sections that were quite well done.

These units were used for long-range triangulation jobs. The crew would have to take the unit, tripod, batteries, electric fence and fence posts up to the station to be used. The electric fence was used to discourage cattle or other critters from getting too close to the tripod. Once there and set up the unit would continue to produce flashes (4-6) every 30 seconds or so as the mirrors rotated in both axes. I understood that the batteries would last over a week in most cases with normal periods of sunshine. I never used one and only spoke to some company surveyors that had worked with some "old timers" who remembered taking them into the field.

These were impressive units and I even had one (it never reached the trash bin with the others I had to dispose of) but it was apparently lost during one of my moves. This was a very well made but somewhat noisy unit that served a purpose of having a site observable over very long distances during daylight. I hooked up a 6-volt lantern battery to the one I salvaged and it ran well after years of storage. I was even able to find a picture of this instrument in an early edition of *Davis and Foote*, 4th edition, McGraw Hill, 1953.

*John Ostly, LS*
*Via the Internet*

## A Stadium Rod

The following was submitted by Maine surveyor Richard Hale. In Richard's cover letter, he explained that Phil Coolidge was an excellent forester, a fixture at every Society of American Foresters meeting, and had many stories to tell. He was tall, thin, always well-dressed, and easily recognizable for his habit of walking with his hands in his back pockets, coat wide open, winter or summer. He wrote *History of the Maine Woods* in 1963 and a monograph, *Park Holland–Revolutionary Soldier, Maine Surveyor* in 1967. This story was told to Richard by Paul Atwood, a consultant who was a P.E., licenced forester, surveyor and architect:

Phillip Coolidge was a Forestry Consultant in Bangor, Maine for many years. He was a graduate of Harvard College and the Yale School of Forestry (c. 1908), a true pioneer in the profession. In a state that is 90 percent forested, in the past, many foresters worked in land surveying. Phil was in court as an expert witness involving a family fight over the volume removed from a gravel pit. Judge Murray who was hearing the case, had degrees not only in law but in chemistry and engineering. He was also a longtime friend of Phil. The testimony went approximately as follows:

***PC:** I had my instrument man set up in the bottom of the pit, and I went up the bank with a stadia rod for him to take readings.*
***Judge:** You are saying that you had two rods, one in each hand?*
***PC:** No, I had one rod. A stadia rod is a surveyor's graduated rod from which readings can be taken.*
***Judge:** Mr. Coolidge. You are a graduate of Harvard College. Is that correct?*
***PC:** It is.*
*Judge: While you were at Harvard College, did you take four years of Latin?*
***PC:** Yes, I did.*
***Judge:** Mr. Coolidge. Stadia is plural. I believe you had a stadium rod in your hand.*

From then on, if Phil slipped and said "stadia," the judge gently corrected him.