

accompanying description extra paper maps should not be needed and an elevation profile in feet of each section will also be supplied.

Electronic Navigation

Electronic navigation employing mapping software or GPS hardware is a mature technology that is readily available in reliable, low-cost consumer products. Having GPS information available may help with navigating the RAAM course and the more than 300 turns. GPS devices continuously report your location, essentially reducing the navigator's job to simply checking to be sure that location remains on the route specified in the Route Book. Knowledge of street names, and for that matter distance between turns, is no longer critically important to staying on the route. It does take some effort to master these tools, but it can be well worth it. It should be noted that many competitors make it across the country without GPS and without ever getting lost; it simply requires paying close attention.

The major advantages of having GPS information available to the crew of the follow-vehicle:

- Non-driver Crewmembers can attend to business other than navigation for most of the race when turns are miles apart. You don't need a third person in the follow vehicle to do these jobs.
- While they can be damaged through misuse, properly set up, a GPS is always reliably accurate within system limits (more than precise enough for all RAAM needs). If powered from the vehicle electrical system, GPS devices suitably set up for RAAM can run continuously, providing current location information for the entire race with little, if any, operator actions.
- "Handheld" devices can be used in the follow vehicle, and passed to the Racer if he will be alone for awhile, to remind him when and where to turn and which way.
- GPS can be a useful tool in getting back on course should you become lost.

Problems with trying to have useful and reliable GPS information for RAAM drivers and Racers:

- Not all GPS devices are suitable for the RAAM task of making one trip with more than 350 required stops or turns. You have to find one that is. The RAAM website has suggestions regarding needed capabilities and what sorts of gadgets have them.
- While no more difficult to use than a cell phone or personal computer, until users become familiar with GPS receiver operation, there is a learning curve. This is only a few minutes for most operators but considerably longer for the person who has to set up the gadgets for RAAM and load all the race data. As with cell phones and PCs, if you can operate one GPS, it's easy to get used to operating any of the others.

