

Motorcycle GPS Tips

Excessive motorcycle vibration may cause GPS power supply problems. Vibrations come from mounting brackets, rough terrain, or high RPM engine operation. Different GPS's mounting bracket positions may cause the GPS to vibrate more or less. Where and how GPS mounts are attached to a motorcycle affects vibration levels.

Internal GPS batteries sometimes vibrate enough to cause arcing at the contacts. This forms tiny carbon deposits that stop electricity from going to the GPS. Carbon deposits appear as blackened areas. When enough carbon accumulates (it doesn't take much...) a GPS will suddenly stop working - as if the batteries were dead. Connecting a GPS directly to a motorcycle's 12v electrical supply solves the power problem but does not eliminate carbon build-up. This problem can be prevented:

1. Cut a tiny piece of ear plug foam (or similar) and put it behind the flat battery contacts to stiffen and dampen them from excessive flexing.
2. Depending on GPS model, put some tape around the batteries, or beneath the inside of the battery cover to shim the batteries just enough so they cannot move around.
3. Use dielectric grease on the ends of all of the batteries and on all of the battery and terminal contacts.

If the battery contacts or the batteries already have tiny black spots of non-conductive carbon caused by vibration induced arcing, this must be removed. Use 600 or 800 grit sandpaper.

GPS automotive cigarette lighter connections are unreliable for motorcycle applications and should be replaced with an in line fuse and an SAE or Molex type electrical connector. Only the following Garmin GPS's can accept direct 12v power: 12, 12map, III, V, StreetPilot, 176, 176C. (The Etrex and Emap models use 3v and require a 12v to 3v adapter.)

Specific Application Notes -

- Garmin GPS 12, 12map, II, III, V, and StreetPilot III - Tape each set of batteries together by laying them in line, but at about a 20o angle. Then put a piece of vinyl electrical tape on the inside angle (the smaller angle) between the batteries. When they are straightened out to insert into the GPS, the vinyl tape will stretch and will pull the batteries tightly together, preventing carbon arcing between the contacts.
- Internal GPS modifications - Disassembling any GPS will allow the internal antenna, wiring, and circuit boards to be stabilized using adhesives, silicone seal and small pieces of foam. This voids the manufacturer warranty, but may be helpful for extreme high vibration applications.
- Motorcycles without 12v battery electrical systems - <[www. cycoactive.com](http://www.cycoactive.com)> supplies wiring and power supply kits for these applications.

Thank you for your GPS and/or GPS bracket order. We appreciate your business. If you have questions about GPS applications and motorcycling, please contact us at <info@aerostich.com> or 218 722 1927.