

## Mobile Radio Installation Issues

By A. Whobrey, KC4JTV

Mobile radio is one of the most useful tools in any radio operator's arsenal, amateur or commercial. The ability of mobile units to provide immediate, on the spot communications makes them desirable to all types of radio users. There are many mobile units in use today, with a wide variety of installation methods, both good and not so good. Proper attention to installation will help you get maximum service and enjoyment from your mobile station.

Placement of the radio in your vehicle is nearly always a compromise, with a number of factors involved. The radio must be securely mounted and easily accessible, with the display visible for convenient operation. At the same time, it must not interfere with the operation of any of your auto's other controls. If your vehicle has airbags, keep all equipment well clear of their deployment zone. I have seen many installations where the radio was merely jammed or wedged between the operator's seat and a console; resist the temptation to do this. This type of "mounting" guarantees that if you are involved in even a minor accident or "off road excursion" this winter, your radio will be lying in the vehicle floor, useless.

Except for temporary installations, avoid magnet-mounted antennas. Even the best magnet mount will eventually cause damage to your car's finish. Use of a magnet mount also makes coax damage likely, due to a trunk lid or door repeatedly closing on the exposed cable. With the widespread use of cellular phone service today, that 3/8" or 3/4" hole won't affect the resale value of your car as much as you imagine. Public safety users have known for years that the hole (or permanent) mount is the way to go, using a rooftop or trunk lid location. This mounting method puts the entire coax inside the car, where it will be protected from weather and physical damage. Generally speaking, hole mounts will be supplied with a higher quality coax cable, since they are marketed for commercial and public safety applications. A properly mounted antenna will greatly increase the dependability of your mobile station.

Power leads are another common weak point in mobile installation. Appearances here can be deceiving. Don't be misled because the radio lights up and appears to work properly, if your power connection fails, you are off the air. Power leads should be run to the vehicle's battery and must be of large enough gauge to insure full voltage to the transceiver. Fuse the "hot" lead(s) as close to the battery as possible, in any case before the wire enters a passenger compartment. Under hood wiring should be properly secured and protected from sharp or hot surfaces. Ground wire(s) should be terminated with a ring type terminal, not merely wrapped under a convenient screw head. Remove paint from the immediate area, and use star washers to secure the connection.

Probably the most over looked detail in non-commercial mobile installation is the microphone hanger. Even if you will leave a couple of small holes in your dashboard, a well-placed mic hanger is a good investment toward operating ease. Find a handy place for your mic, so that it can be easily located while driving. After all, the microphone is the most commonly used "control" in mobile operation.

\*\*\*SEC's Note; Tony knows this area of communications pretty well. He is the Communications Technician for the KY State Police at the Elizabethtown Post # 4. Thanks Tony!!!