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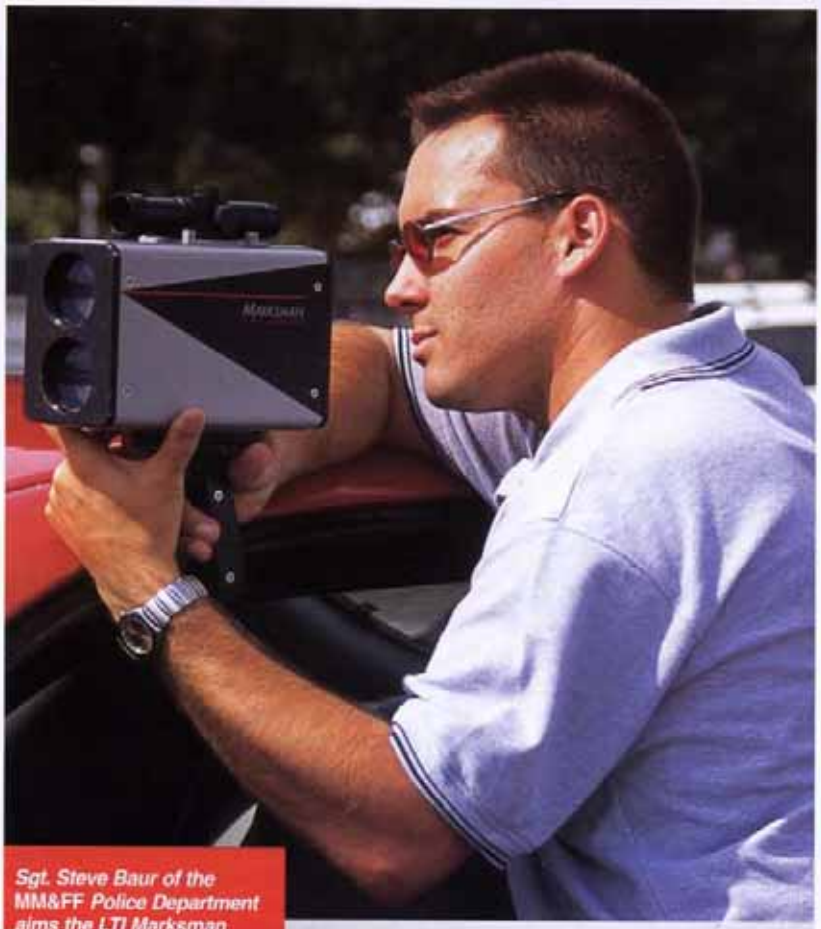
Can the K-40 Electronics Laser DefuserPlus protect you from the police?



Sgt. Steve Baur of the MM&FF Police Department aims the LTI Marksman 20/20 at his boss' '97 Cobra. Thanks to the K-40 DefuserPlus, you can now have protection against unreasonable speeding tickets. K-40 kit comes complete with a DefuserPlus license plate frame, auxiliary brackets, a Warning Pod, and wiring. Most installs are done by authorized dealers, but it's easy for the do-it-yourselfer, too.

TIME BOMB

Can the K-40 Electronics Laser DefuserPlus protect you from the police?

K40 ELECTRONICS™

By Jim Campisano
Photography by the author and Steve Baur

Once upon a time, when gasoline was cheap and carbureted musclecars roamed the planet, speed limits climbed to reflect the magnificent new roads of the Eisenhower interstate system and the technology inherent to new cars.

Then came the Arab oil embargo of 1973. Gasoline became scarce and lines formed at the pumps. To conserve fuel, President Richard Nixon mandated a 55-mph national speed limit. This was done at a time when the average new car got 10 mpg in the city and maybe 15 on the highway.

Once the spigot was opened up and gas flowed freely again, a strange thing happened: The speed limit stayed at 55. In theory it was to save fuel, but the reality was it gave law enforcement a way to write limitless amounts of citations for speeding. The revenue stream this created was like a license to steal. Radar guns proliferated—many of which were underwritten by the insurance industry—and this gave rise to the radar detector industry.

Even in the new millennium, speed limits in most places remain artificially low. This is done for a number of reasons. Revenue enhancement is the most prevalent. Traffic citations brings in billions annually to municipalities.

Then there is the influence of the insurance industry, which lobbies (buys?) politicians, police, and bureaucrats for favors. Is it any wonder insurance companies subsidize or purchase speed measurement devices up front and distribute them to municipalities and law enforcement agencies? Moving violations mean higher insurance rates for the insured and more dough for cash-strapped municipalities.

Lower speed limits also give the police more power to pull someone over. Who the hell can drive 55 or even 65 in a modern automobile? Profiling is commonplace on today's roadways and a "speeding" car is an easy target.

Radar remains the number-one form of separating otherwise law-abiding motorists from their cash, but in the last couple of years a new, potentially more insidious method has begun finding favor—traffic lidar (Light Detection And Ranging)—better known as laser. Unlike radar, which throws a wide beam and is less than precise at targeting individual cars, laser relies on a single beam of light that zeroes in on one specific vehicle. More troublesome is that it is difficult to detect. Usually, even if you have a laser detector, there is little or no time to react. If the laser detector goes off and you are exceeding the speed limit, chances are you're about to receive a summons.

The kit comes with the DefuserPlus integrated into the license plate frame. The frame, however, didn't match the contours of our Mustang, so Topo Customs removed the unit from the frame and attached it to our existing license plate via one of the supplied brackets. The smaller window is the receiver portion of the DefuserPlus, and the wider side contains the diodes for the return jam.

This is the unit out of the frame.

Angel Camacho of Topo Customs attaches the DefuserPlus to a modified mounting bracket. This gave the install a true factory look.

Camacho and Bob Biss add a mounting hole in the bumper through which we ran the wiring.

Here is the DefuserPlus mounted to the front of our Cobra. If you live in a toll booth state, you might think it looks similar to an electronic toll device.

Wiring runs the length of the inner fender through convolute tubing and then through the firewall. We snipped the wire ties after the photo was taken.

Enter K-40 Electronics. A longtime player in the radar detection industry, K-40 saw a need for something that went beyond merely sniffing out the speed-measuring device. The result is its Laser DefuserPlus, a device that's easy to install and guaranteed by its manufacturer to protect you from laser tickets.

When the laser gun was developed, a range of operating frequencies had to be chosen. That range is 880 - 950 nanometers (nm), and most guns today are set at 904 nm. The DefuserPlus has the circuitry to confuse police laser, automatically, anywhere in the 880-950 range, if it encounters a gun that has been changed from 904 nm.

The idea behind the DefuserPlus is simple. When the police target your vehicle with laser light, the DefuserPlus immediately sends out a return pulse signal at the same frequency. At the same time, it gives you audible and visual warnings from a small pod mounted in your interior. The warning alerts you to slow to the speed limit, while the return pulses from the DefuserPlus confuse the police laser gun. By the time the gun is finally able to pick up your speed, you should have had enough time to slow to the legal limit no matter how fast you were traveling.

At least in theory. How well does it work in the real world? To find out, we had Topo Customs in Saddle Brook, N.J., install the DefuserPlus in Superfly, DOHC, our resident (and until recently, long-dormant) '97 Mustang Cobra project car. Installation was fairly straightforward and took about a shade over an hour (with requisite stops for photography).

The DefuserPlus receiver can be installed in a number of ways—with a supplied license plate bracket, or in the grille, under it, etc., with other brackets included in the kit. Since our Cobra already had a front license plate bracket, Topo technicians Angel Comacho and Bob Biss decided to use one of the supplied brackets and modify it to fit the license plate for a truly custom installation.

Then it was down to Old Bridge Township Raceway Park in Englishtown, N.J., for a test. Present were this author and associate editor Steve Baur from *MM&FF,* and Grant Dahlke, marketing communications manager, and Ron Hettich of K-40. Since we had no access to a police laser gun, we borrowed an LTI Marksman 20/20 from K-40—the most commonly used unit in service at the moment. Hettich was responsible for firing the gun at the start of the test, though he trained both Baur and me, and before you knew it, we were firing with authority.

BEFORE & AFTER

Since the DefuserPlus turns on as soon as the car is started, we had to disable it for the "before" portion of our test. This was as simple as covering the receiver eye with duct tape. In this mode, Hettich was able to accurately read our speed (56 mph) from 991 feet away, and there wasn't a peep from the Warning Pod. It should be noted that police generally snag cars with their laser from a distance of 400 to 1,000 feet.

We then removed the tape and made a dozen test runs. The first three were deceleration runs from 55 mph to 40 mph. Once again, in each instance, the object was to nail us from 1,000 feet. Did the DefuserPlus work as advertised?

Like a charm. By the time the laser gun picked up our speed on the first run, we'd slowed to 29 mph and were 108 feet from Hettich. We could have slowed even more had we wanted. In fact, on the next pass we got down to 24 mph and were just 66 feet. away by the time the gun was able to pick us up.

Biss soldered the wires together and hard wired the unit to the fuse box. Obviously, all wiring was then securely tucked away. The DefuserPlus turns on any time the ignition key is in the On position.

We mounted the Warning Pod to the A-pillar, in hindsight perhaps not the best position. We'd recommend affixing it close to the gauges.

We then increased our speed to 75 mph and attempted to slow to 50. In every case, we were able to decelerate to less than our pre-determined speed limit.

Then it was time for the high-speed stuff—100 to 65 mph, not that we would ever drive 100 mph on the highway. No, this was just for the sake of science. Again, the LTI Marksman was baffled. We were able to haul it down to 46 mph the first time and 50 the second.

And so it went. Baur and myself both had ample time with the laser gun and the K-40 DefuserPlus never let us down. In some instances, the gun couldn't even report a reading. We tried aiming at different parts of the car (not just the license plate) and could not get a reading. We even tried shooting from a wider angle, but the laser gun failed. This makes sense since it can't pick up speed from anything over a 10-degree angle.

For our last test, we tried again to pick up our project car with the receiver covered—with yours truly working the gun. Like clockwork, it picked up Superfly at 1,017 feet at 68 mph.

If there was a downside to the unit, we'd have to say that the audible warning from the pod needs to be much louder. In our 11-second test vehicle, it was difficult to hear over the exhaust at highway speeds. K-40 acknowledged this at our test, but pointed out the DefuserPlus is often tied into one of its radar detector systems, which have a much louder alarm signal.

Also, while we mounted our Warning Pod to the driver's side A-pillar, in retrospect, we'd have been better off placing it somewhere in front of or nearer to the gauge cluster.

THE REAL WORLD

So far, we've had two encounters with traffic lidar since the DefuserPlus install. On both occasions, the DefuserPlus was picking up the signal of a different car being targeted, which is quite unusual but not unheard of. By the time we saw the cop car on the side of the road, we had already slowed down to the legal limit. But it was nice to have the warning.

Keep in mind also that if you are being targeted with a laser from behind, the DefuserPlus will not pick up the signal. The only solution to this is a rear-mounted unit, which can be easily integrated for an additional cost. This is less of a problem because laser can only be used in a stationary mode, and you should have a visual ID of the police and will have slowed down before you pass it.

By the time Ron Hettich of K40 was able to track our speed, we'd practically come to a stop from highway speeds and beyond.

Sorry, we just couldn't resist. What would a test like this be without one good doughnut gag? Honestly, we appreciate the difficult job the police do, but sometimes revenue enhancement turns them into tax collectors with guns.

Of course, another question arises: What if the laser gun manufacturers change the operating frequency, say to 2,000 nm? According to Hettich, K-40 has the technology to upgrade every unit to compensate.

If you don't think you need radar or laser protection, think about this: Some 20 million speeding citations are issued every year in this country. Like bandits in days of old, the police are hiding in the bushes and are staked out on the side of the road waiting to take your cash. In New Jersey, traffic fines are doubled in 65-mph speed zones. In Florida, the police are posing as construction workers or pretending to be in broken-down cars, all the while using laser and radar to trap motorists. And we all know how much they like to pull over a musclecar like the Mustang.

That, friends, is not traffic enforcement. That's revenue enhancement.

K40 ELECTRONICS

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