WA Technology

Using and Installing Deer Whistles; *ITEM DER*

Do Deer Whistles Work?

Can't give a definitive answer in this report but will present the facts we have found! From our experience and what we found, we think they do. We have many deer in the area where we live. The 2 mile long twisty road we live on has very little lighting and every night deer come from the wooded area on one side of the road to eat all the plants in the homes on the other! We had deer whistles installed on our S-10 and a number of times when deer were observed coming toward the road, they stopped, froze and look straight at the truck. Fortunately we never had a collision problem – however some of our neighbors hit deer or worse, trees avoiding deer! Was it my Deer Whistles that caught their attention or the tucks FlowMasters!? We can't be sure, but Deer Whistles are inexpensive and unobtrusive; they are cheap insurance!

What Does The Research Show?

Like anything else on the internet you can find completely conflicting data. Let's start with some of the Pro's for the effectiveness of Deer Whistles (***my comments are in bold italics):***

1. A 2003 report by the County of Modac California was most compelling. First it was paid for by the California Office of Traffic Safety (not a Deer Whistle Company!!). Second it involved a real world tests in a county with lots of deer and a previous record of deer/vehicle collisions. Their method was simple. They advertised to give free deer whistles to as many who would install them until they hit ½ the cars in the county. They only reached 1648 out of the 8300 registered vehicles in the county but that was enough to reach statistically sound results.

   Summarizing the results: In a two year period from January 1, 2001 to December 31, 2002 the cars without the Deer Whistles hit 29 Deer. Those with the Deer whistles hit none! Since there were more folks without whistles you would expect them to hit more. But statistically using the ratio of cars with and without to deer hit by those without yields 1648/6652 x 29 there should have been 7.2 Deer Hit by cars with whistles if they were not effective. For statisticians, they used a chi square test which essentially says what is the probability that the whistles were effective versus the probability the results found were just a random occurrence. It says there is a 99.6% probability the whistles were effective!

   The whistles tested were 418 electronic and 1230 air powered. The air powered were two types. ***One of a type I had used on my S-10 trucks for 10 years. The other was another type with two holes. I decided to buy***

that type on eBay for $5.95 (free shipping) and install both! **This is the companies web site: www.deerwhistle.com**

2. **Another test was conduced from June 1986 to May 1987 by "Business Research Group" (not sure who they are or who paid for the tests.) They tested 9 flow through air powered Deer Whistles on mostly white tail deer. They defined criteria that if a deer froze for 4 seconds having heard the whistle that way considered effective. Of the 380 deer tested 351 responded positively and two of the nine devices tested showed over 90% effectiveness.**

   Not nearly as compelling a test as in number 1, but positive.

3. **Now for some negative reports. A widely publicized Internet report quotes Peter Scheifele, director of bioacoustics research at the National Undersea Research Center. Summarizing: In North America, nearly 750,000 collisions occur each year between deer and vehicles. Efforts to reduce that number have spun off a multi-million-dollar industry: deer whistles. Scheifele, an animal bioacoustics and audiology expert, wanted to know more about the devices, so he and his research team scientifically tested their effectiveness. He and his team tested six air-fed whistles in the laboratory and in the field. The study's goal was to determine the actual frequencies generated by the whistles and the intensity at which they are produced, compare that data to the hearing abilities of deer, and then take the animal's acoustic behavior into consideration. Following the directions on each package, the team mounted the devices onto a car's front bumper. Using a road closed to the public, they drove the car at speeds ranging from 30 to 45 miles per hour while recording sound and data. "We tested them strictly from an acoustical point of view," explains Scheifele. He found that the whistles typically produce a signal either at a frequency of 3 kilohertz (kHz) or 12 kHz. The hearing range of white-tailed deer, the most common species in the United States, is between 2 kHz and 6 kHz, so the animal is not capable of hearing the 12 kHz signal. Although deer may be able to hear the 3 kHz signal, it is only 3 decibels louder than the road noise created by the car, so the signal is buried.**

   But even if deer can hear the electronic signal, the UConn scientist questions how one alerts rather than startles the animal. This is where animal behavior comes into play. "Think about the metaphor 'deer in the headlights'," says Scheifele. "It is used to conjure up an image of someone who is confused or frightened. When deer sense something unusual, we do not know for sure how they are going to react. "Will they freeze in their tracks, run off, or charge towards the sound? Their behavior is related to the "fight-or-flight response." According to scientific literature on the subject, there is an amount of space in which an animal feels safe, but once that boundary is violated, the animal's reaction is unpredictable. Its response will depend on a number of factors, including age, sex, type of enemy, and surroundings. "All in all, the air-fed whistles do not make sense to me acoustically," states Scheifele.

   In my opinion this fellow sounds more like a deer psychologist! The tests he conducted do not, in my opinion, justify his negative opinion!

4. **Roy Truelsen, Portland, Oregon published another negative article about Deer Whistles. This is a summary of some of the points:**

   He states, "Perhaps the most definitive condemnation of deer whistles and their claimed effectiveness is described in the May 12, 1997 article entitled "Deer-Vehicle Collisions are Numerous and Costly. Do Countermeasures Work? published by "Road Management & Engineering Journal"(RMEJ) . On page 4 of 6 of the RMEJ article reviews the deer whistle manufacturers standard claims that the whistles emit ultrasonic sounds as the vehicle travels over 30 miles per hour and that these sounds (not audible to humans) are effective in frightening deer away from the roadway.

   "Georgia's Game and Fish Department, for example, found that in hundreds of observations from vehicles equipped with deer whistles, deer didn't respond. Whistles on vehicles going 25-30 mph produced no ultrasonic sound, although some ultrasonic sound was produced when the whistles were blown by mouth. According to wildlife biologists at the University of Georgia, NEITHER DEER NOR HUMANS CAN HEAR ULTRASONIC SOUND."
   So the next time you think about purchasing a deer whistle, consider the quality research that has been performed by professors, universities and police forces across the country that establish that deer whistles don't work. Then compare this data to the unsupported claims made by the manufacturers and sellers of deer whistles and decide for yourself who is telling the truth before you spend your money.
   He does quote some semi-objective evidence that raises questions about the quality of the tests mentioned in item 2 above, however most of his diatribe quotes the subjective opinion of others! However he and other "authoritative" experts keep on saying Deer Whistles don't work because they don't generate ultrasonic sounds and Deer don't hear that frequency. However I do not believe it is relevant that the makers of these devices know why and how they work! The research from Example 1 and my experience say they might well!

What Can Be Concluded:

First, as mentioned, air powered Deer Whistles are inexpensive and unobtrusive. I'm not sure what design works best so why not use one of each on either side of the grill. The Corvette grill being black hides there presence!

Second, when you see a deer honk the horn and go slow. Stop if feasible and needed, but if possible get past them. Never sure what will spoke them and make them go across the road and even hit your stopped car. Or in the case of your Corvette try to jump or step over it!.

Third, DO NOT swerve and hit a tree, etc! If you can turn and avoid hitting one fine but not in place of going off road. On the four lane highways in deer areas (often marked with signs) with woods on the right side, stay in the left lane giving more time to stop or change lanes if deer run across the road.

Installation:

Installing Deer Whistlers is straight forward. If the double sided tape often provided is not already attached instead of Velcro I prefer a 3M™ product called Dual Lock™. It has thousands of plastic mushroom heads sticking up from each piece. When pressed together, these mushroom heads interlock with one another creating an audible snap that announces that the fastener is locked. They are a reclosable and offer superior shear and tension holding ability when compared to traditional hook and loop.

PS: Just installed a pair of Deer Whistles in my wife's new Nissan Muano - just as easy and put in an unobtrusive place in the grille like the Vette!

Photos of Whistles Installed:

Have a MIG (Wire) Welder?

A Friend with a MIG Welder? Know Someone with a Fabrication Shop?

Do Them a Big Favor and Have Them Review the Shielding Gas Saving Information on Our Web Site:

www.NetWelding.com

If You Have a Home Shop - Have You Run Out of Shielding Gas on a Saturday or Sunday? We Have a Solution:

How Much Gas Can Be Saved??

The best way to show the savings is with an example from one of our industrial customers who tested the system then bought them for all 35 of his MIG welders.

A Texas Truck Box manufacturer evaluated the system on a repetitive job, welding doors. With their standard gas delivery hose they welded ***236 doors*** with a full cylinder of shielding gas. Just substituting their gas hose with our patented ***GSS*** maintaining the same flow settings they welded ***632 doors***! That's a 63% reduction in shielding gas use.

Weld Performance Improvement

A small shop owner provided this feedback after he purchased a 3 foot ***GSS*** for his small MIG welder. Al Hackethal reported these findings:

"Well, I can't believe it. I never thought a hose could make that much of a difference. I had a small job that's been waiting for a while. The weld quality, and even penetration is considerable better. Almost no spatter! The weld seemed to be hotter and I turned my MIG down a notch.

Initially thought that my imagination had kicked in, but then realized that the gas I'm buying is actually working the way it's supposed to. Glad I found your website. This is one of the few things that really works better than any info could suggest. I understood the theory, though in practice I understood much better after the first couple of welds. Now I have better looking welds and almost no spatter, which means less grinding and finish work! In addition, the tip was cleaner after the job I just did.

This will provide savings in time, labor and maybe even consumables too. As a one man shop there's never enough time for anything.

Al also has a TIG welder with 300 amp water cooled torch and bought one of our Leather Cable Covers. His email said this about it!

Oh, the leather wrap for my TIG hoses worked very well and fits perfectly. I'd just replaced the hoses and was looking for something to protect them that was better than the nylon wrap that's available around here. Now I'm "TIGing" again too, and much safer. It's good to know the coolant hoses are well protected. Much better than using a 300 amp TIG and then realizing that I was standing in a puddle of coolant, which is what recently happened. Can't pay the bills if I electrocute myself!

Thanks for making products affordable".

Another Home Shop Writes About GSS System

Perry Thomasson has a very well equipped home shop. He uses a 175 amp MIG welder. However the small welder cart only held a medium size shielding gas cylinder and Perry wanted to reduce the number of times he had to have it filled.

He purchased the largest cylinder his distributor offered for sale and chained it to a wall in his shop. He needed a much longer gas delivery hose so he added a 50 foot conventional 1/4 inch ID hose. He found he was using a lot of gas.

He purchased a 50 foot long ***GSS*** and saved a significant amount of shielding gas while improving his weld starts by reducing the starting gas surge. Since his regulator/flowgauge had a hose barb on the output, we supplied Perry with a splice connection on the supply end of the ***GSS***. He simply cut the existing gas delivery hose close to the regulator and spliced in the ***GSS*** hose. The welder end uses a standard CGA fitting that is supplied with the system.

Perry emailed a picture and said;

" The system works great. Thanks for the professional service and a great product."

A Professional Street Rod Builder Had This to Say About the GSS*:*

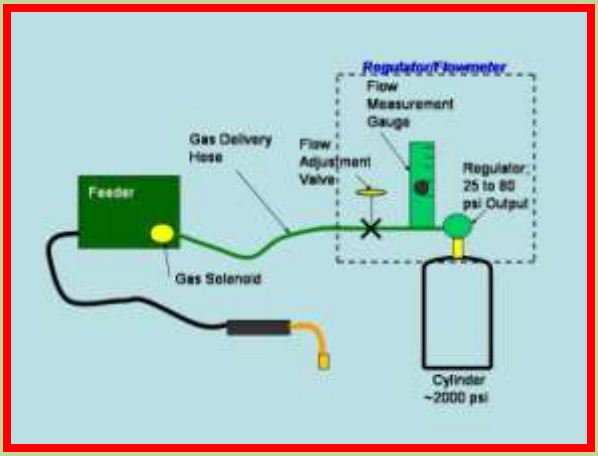
They use a 250 amp MIG welder with built in feeder and a 6 foot gas delivery hose. With their standard gas delivery hose the peak shielding flow at weld start was measured at 150 CFH, far more than needed and enough to pull air into the shielding stream. Air is then sucked into the gas stream causing poor weld starts and possibly weld porosity.

With the ***GSS*** replacing their existing hose, the peak flow surge at the weld start was about 50 CFH and it quickly reduced to the 25 CFH setting. With the many short welds made and frequent inching of the wire, they used less than half the gas and had better starts.

Kyle Bond, President, indicated a big benefit is the reduced time and effort changing cylinders since it's required less frequently. He quickly saw the improvement achieved in weld start quality as a significant advantage! Kyle, an excellent automotive painter, was well aware of the effects of gas surge caused by pressure buildup in the delivery hose when stopped. He has to deal with the visible effects in the air hose lines on the spray gun in his paint booth! It's too bad we can't see the shielding gas waste as Kyle can the effects of excess pressure when he triggers his spray gun! The paint surge is visible and creates defects unless the gun is triggered off the part being painted! Kyle can manage the surge by triggering the paint gun off the part; unfortunately we can't start our weld with the MIG gun off the part ! The ***GSS*** has a built in surge flow limiting orifice that keeps the peak flow from becoming excessive. So you not only save gas you improve your weld starts!

How Does The GSS Work?

Gas waste occurs every time you pull the MIG torch trigger even if it's only to inch the wire to cut off the end.



To keep flow at the preset level the gas pressure in the cylinder regulator will be between 25 and 80 psi. Flowgauge regulators (those with a flow calibrated pressure gauge) operate in this pressure range as well.) However to flow shielding gas though the welder and torch typically requires 3 to 5 psi depending on restrictions. Therefore every time welding stops the pressure in the gas hose raises to the regulator pressure of 25 to 80 psi. That stores up to 7 times the hose volume of gas in the hose. This is similar to your shielding gas cylinder which holds about 150 times the volume of gas as the physical volume of the cylinder due to the high pressure!

The patented ***GSS*** stores over 80% less gas then typical shielding gas hoses. In addition to the wasted gas (which you can hear when you pull the torch trigger) the high flow also causes air to be pulled into the turbulent shielding gas stream! This is like starting with the gas cylinder shut off! You have probably experienced that before when you forgot to open the valve!

It takes a short time for the shielding gas flow to return to a smooth less turbulent (laminar) flow even when the start gas surge flow reduces. That can take several seconds so when making short welds or tack welds you're not getting all the benefits of the shielding gas you're purchasing!

SUMMARY:

The ***GSS*** can cut your gas use in half or more. It also has a surge restriction orifice built into the fitting at the welder- wire feeder end. That limits peak flow (*but not your set flow*) to a level that avoids excess turbulence for better starts. It allows a controlled amount of shielding gas to quickly purge the weld start area.

All you need to do is replace the exiting gas hose from cylinder regulator to welder with our patented *GSS*. *It is available in various lengths at* www.NetWelding.com .

There are more testimonials at:

http://www.netwelding.com/production_test_results.htm

Have more questions? See:

http://www.netwelding.com/Overview_GSS.htm

Or email us at:
TechSupport@NetWelding.com