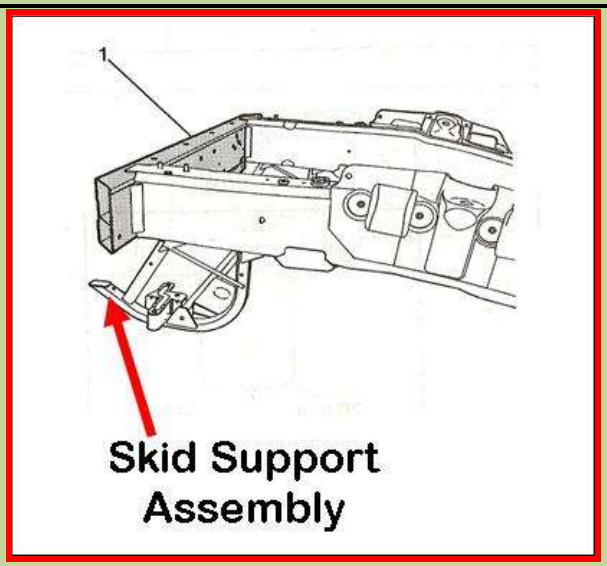
WA Technology

Skid Support Protector; *ITEM SSP*

It's almost impossible to avoid that terrible sounding noise when your Corvette travels over even a modest dip when you leave a driveway! Fortunately the noise is worse that the damage - mostly! What you are hitting is what Chevy refers to as the Skid Support Assembly. You definitely don't want to pay to have it replaced! It sits behind the flexible plastic dam which easily bends to handle those dips. However that just exposes the Skid Support.

These pictures summarize a way to fabricate a "Skid Support Protector" to manage the damage:

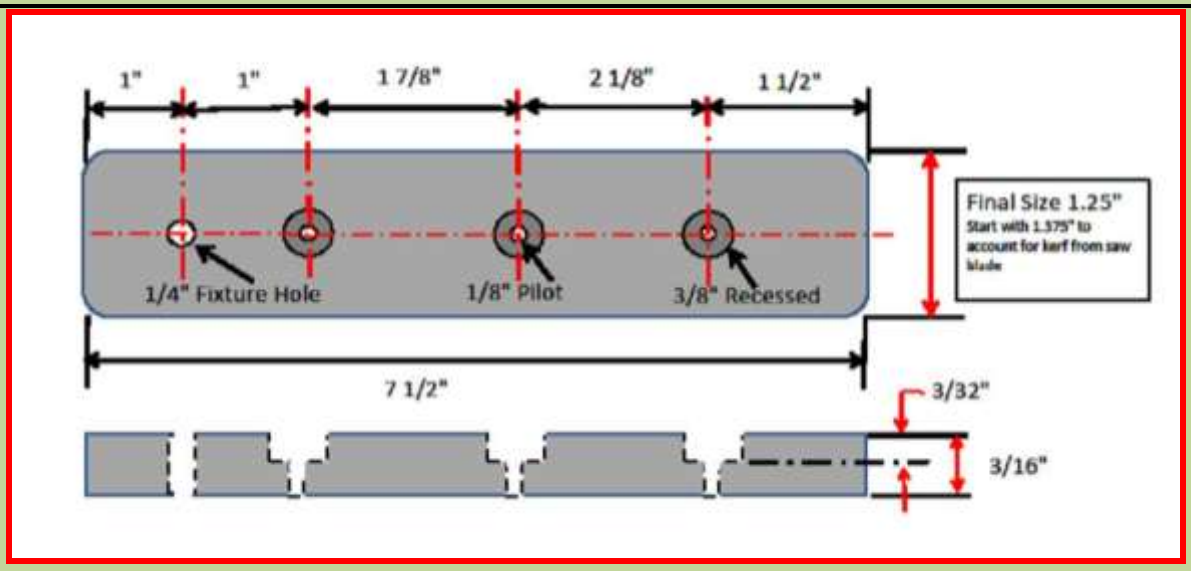
This is a sketch of the Support Assembly from the Corvette Service Manual. When looking under the front of the car only about 6 inches is visible, where the red arrow is pointing. The remainder is covered by air baffles and air deflectors.	
This is one of the Skid Supports on my 2008. Fortunately the damage is not bad. It is mostly scraped and gouged. The Skid Support Assembly is made from Aluminum. Wondered why there was no rust since some of the scraps have been there for some time!	

Some devices are sold such as rollers that mount by drilling a 3/8” hole through the Skid Support which is only about twice that thickness. Would definitely make it weaker. The wheels extend perhaps 3/4” extra which would mean hitting them more often! Decided to make a 3/16” thick Aluminum “Protector” plate and screw it into the bottom of the Skid Support.

First made a template shown in above photo. Black lines on the template are the desired screw locations.

Had some 3/16” aluminum so made two strips 1 ¼” wide. If you can purchase 3/16” x 1 ¼” or 1 ½” bar stock that will work fine. Easy to cut with a Saber Saw. Just use a wood rasp to straighten the cut edges. The Skid Support measured 1.20” wide so the Skid Protector will be just a fraction wider.

Below are the dimensions used for the three screw holes and the one extra hole that is referred to as a “Fixture Hole.” If you purchased a 1 ½ “ wide bar you can use a wood rasp to remove 1/8” from each side of the front section- aluminum cuts quickly, just apply some candle wax on the rasp surface periodically.



Made a "forming pattern" from a 2" X 4" using the template with an extra 3/16" more curve to compensate for the Spingback.	
Drilled the three screw holes with only an 1/8" drill bit. Then used a 3/8" Forstner bit and made 3/32" deep recesses for the screw heads. Wood Forstner bit works fine for aluminum. The rear ¼ " hole was used to screw the bar to the 2 X 4 "forming fixture" so it could be bent to the proper shape with a hammer.	
With the Skid Protector screwed down a few modest hits with a hammer is all that was needed to match the Skid Support contour. Check the fit, may need to use the vise and hammer to make it fit perfectly.	
Now cut the Skid Protector at the edge of the rear screw hole recess. Place it over the Skid Support in the car. Using an 1/8" drill in the *Middle Hole Only*, drill the Skid Support. Then use a 5/32 pilot drill before starting the screw. We used # 12 X 3/4" stainless button head Phillips sheet metal screws.	

Found a steel not stainless screw was needed to make the threads. The stainless screw was not strong enough to cut the self tapping threads – one broke. We inserted the screw with a large Phillips bit in a ratchet wrench. After the threads were made the stainless screws worked fine.

To keep everything in alignment, drilled out only the center hole in the Skid Protector with a 7/32" bit and installed it with one screw before drilling the next screw hole in the Skid Support. Did the same with the last hole with two screws in place. This required installing and removing the Skid Protector several times but assured all holes aligned perfectly.

With all three holes drilled and screws hand tight, then removed them and the Skid Protector and coated the inside surface with silicon sealant. With everything being aluminum this step is probably not needed but it avoids water getting into the gaps. Then screw it in place. Wipe off the excess silicon and your finished.

Here are two views of the finished "Skid Support Protectors."

Now when that inevitable scraping noise occurs (and there is no doubt it will!) you'll know the Skid Support Assembly is not being damaged! There will only be some scrapes on the "Skid Protectors!"

The fact that "Skid Protectors" are raw aluminum (not black paint) will mean the scrapes will not be readily visible! Could have painted them black but they can't be seen unless you stoop down and look under the bumper. Maybe if the original Skid Support Assembly wasn't painted the scraps wouldn't look that bad! However the sound would still make you wonder!

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*:*

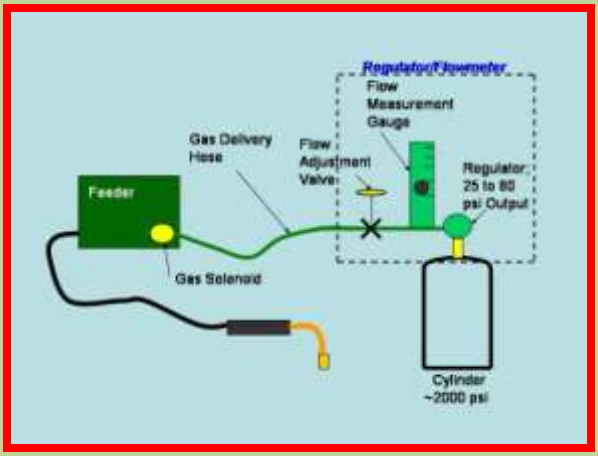
They use a 250 amp MIG welder with built in feeder and a 6 foot gas delivery hose. With their standard gas delivery hose the peak shielding flow at weld start was measured at 150 CFH, far more than needed and enough to pull air into the shielding stream. Air is then sucked into the gas stream causing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