WA Technology

Suggestions for:

Changing Oil and Filter Without Ramps

Read and Understand the Following WARNING STATEMENTS;
They Are For Your Protection.

Warning!

This approach is only a "suggestion" for raising your Corvette to gain access to the oil drain plug and filter. Be very careful if using these ideas and never get under the car without **Properly and Securely Using Quality Jack Stands**. Suggestions for **PUCKS** that protect the Corvette body are included. All these items are to be used on a solid foundation such as concrete **NOT dirt or loose stone surface etc!**

The comments made in this section are **NOT MEANT TO BE COMPREHENSIVE** in regard lifting your Corvette. Please carefully read and follow the General Motors recommendations and instructions. Refer to your owner's manual. **Also read User and Warning Information for the Jacks and Jack Stands.**

RAMPS

Ramps can be employed to provide access for a jack/cross brace to fit under the front spoiler.

The ramps shown on the left were built to provide clearance needed to slip a jack/cross brace under front and rear cross members. They are useful when all four wheels must be off the ground. However even with the added feature employed to keep them from sliding (black flexible section on bottom) they are heavy and not easy to use. These ramps are only high enough to allow a jack and cross brace to be placed under the front cross member. They were not designed to allow sufficient access to change oil or filter.

Use of Low Profile Jacks for Access to Underside

When it came time to change oil, I looked at an old, low profile scissor jack and thought it would be easier and quicker to use jacks rather than ramps. If you don't have (or like ramps as me !) you may find this approach useful.

The old scissor jack was fine for lifting one side of the car to provide needed clearance for the jack/cross brace to fit under the spoiler but what about the other side?

Since low profile scissor jacks are no longer readily available what about using my small hydraulic floor jack? These can be purchased for about $30 at Harbor Freight etc. You could use two of them.

Only problem, when fully closed, it was about ½ inch too high to fit under the car and lifting Puck (red Puck in photo left.) It was modified to provide the needed 4 inch total height matching the low profile scissor jack. A portable grinder removed the fillets welds attaching the top section, photo right. Easily replaced when needed. (Note: purchased four of the lifting Pucks at: **http://www.eliteengineeringusa.com/jacking-pads.html)**

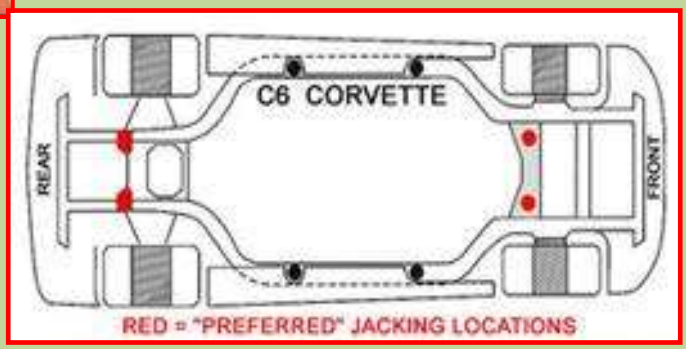
Photo left shows jack lifting left side of car.

It doesn't have to be raised very high to gain access for the jack/cross brace under the front spoiler. Photo right shows about a 2 inch tire clearance that was all that was necessary to have the jack/cross brace clear the front spoiler.

Jack /Cross Brace Under "GM Preferred Lifting Points"

Built a Cross Brace to fit my large hydraulic jack. Made a pin that slips into the hole in the jack base after removing the rubber pad. Designed the cross brace to fit both front and rear cross members. For the rear, 2"x4" wood blocks with two bolts are inserted into holes drilled into the cross brace. The ¾ inch plywood blocks at each end are permanently attached and fit the Vette's front cross member.

DO NOT ATTEMPT TO GET UNDER CAR WITH JUST THE JACK IN PLACE. Use appropriate Jack Stands. Read all instructions that come with Jack Stands. When jacking the car put wheel chocks in back and in front of the wheels left on the ground.



Picture right shows the "Preferred GM Lifting Points." Red spots are preferred; black circles (where we put the Pucks) are listed as acceptable.

The GM graphic is a bit misleading. The rear "Points" are actually much closer together than the front and require narrower support sections like the high and narrow wood blocks added when we're raising the rear.
Photo right shows the cross brace with jack stands placed under the ends. This provides plenty of room for access to the drain plug and oil filter.

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Changing Oil

The hard work is done. Suggest running the car until the oil gets to temperature, at least 10 minutes. Then let it cool for at least 5 and avoid touching the exhaust!

Now with plenty of room get a 14mm socket, and an oil drain pan and remove the drain plug. Red arrow shows the plug which is easy to access.

Oil filter is also easy to access. Any filter wrench should fit.

Now that the oil is drained and you have installed and tightened the drain plug and filter (put some oil in the filter before installing) it's time to lower the car.

You can now remove the jack stands and lower the jack/cross brace several inches. Carefully crack the hydraulic opening valve. You can now raise the side jacks to reach the lifting pucks. Now remove the jack/cross brace from under the car.

Lower each side slowly alternating from one side to the other. Easier with a scissor jack than a hydraulic one but if careful, opening the hydraulic valve just a crack you can watch the car slowly descend.

Fill the car with just under 6 quarts of Mobil 1(remember you put some oil in the filter before installing), start the engine, check for leaks and your finished!

Advertisement for Our Gas Saver System

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*:*

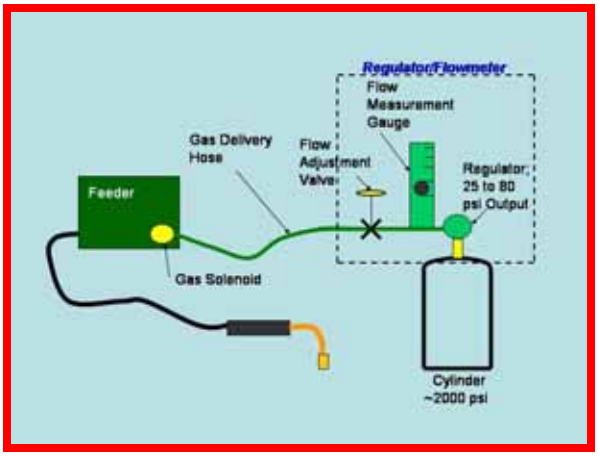
They use a 250 amp MIG welder with built in feeder and a 6 foot gas delivery hose. With their standard gas delivery hose the peak shielding flow at weld start was measured at 150 CFH, far more than needed and enough to pull air into the shielding stream. Air is then sucked into the gas stream causing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