



Mid-Atlantic Chapter

# MASACC

## **C1 WINDSHIELD RUBBER CHANNEL REPLACEMENT**

***MASACC Tech Session***

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**Version 1**

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After 40 + years the rubber channel that surrounds the windshield on my '61 was pretty much shot. The rubber was as hard a piece of coal and cracked and broken in many places. In general, it looked awful and needed to be replaced – for that matter, it needs to be replaced on many of the C1 cars I recently observed at Carlisle.

Back in 1975 I had noticed that the windshield leaked around the gasket when the car was parked outside in a rain storm. Being a “Shade Tree” mechanic I figured I could fix this problem simply and easily by taking the windshield out of the frame and squirting a little sealer in the gasket channel and then putting the thing back together again. As it turns out, this process was not simple and while I stopped the leak, I broke one layer of the glass in the windshield – so, not only did I need to replace the rubber channel but the windshield as well.

Based on my previous – disastrous – experience, I decided to do a little more research on the process before I launched into this particular repair. I searched through the archive of NCRS *Restorer Magazines* that I have and found an article by John Bellmore which was published in the Summer 1994 issue – I’ve reproduced that article here in the handout and it is located for ready reference immediately after my discussion. The article presents a good starting place and it is a wise restorer that reads it before starting off on this project.

In addition, Clymer Publications has a short discussion in their *Corvette V8 Complete Owners Handbook* concerning windshield replacement. Their discussion is not very detailed; however, for your information, I’ve reproduced those two pages and included them immediately after the NCRS article.

There is a decent drawing of the windshield assembly in the *'61 Corvette Assembly Instruction Manual*. This is the basic assembly specification for assembly at the plant and I’ve included that drawing after the *Owners Handbook* pages for your information as well.

Finally, I’m sure you all have a copy of the Chevrolet *ST-12 Corvette Servicing Guide*. On page 1-4 it begins a pretty good discussion of how to replace the windshield and how to reassemble the frame. You should certainly read that discussion carefully before starting this project – I’ve, once again, included a copy of that discussion at the end of this document.

The rubber channel gasket and other parts required for this repair are available through Corvette Central and Paragon and are probably available in other places but I happen to have those two parts catalogs and found the necessary parts in both books without difficulty.

## **WINDSHIELD RUBBER CHANNEL REPLACEMENT**

Mr Bellmore’s NCRS article assumes that the car is together when the windshield and frame is to be removed. Since my '61 is/was “mostly dismantled,” as you can see from the picture, I will abbreviate some of the steps he took and start this presentation with a very basic discussion about removing the windshield from the car followed by replacement of the gasket or rubber channel, reassembly and then reinstallation of the frame back on the car body. A

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new windshield is something over \$400, so I would suggest you exercise a certain amount of caution when approaching this repair. While the basic instructions in the documents I cited seem to cover the repair pretty well – **nothing is ever as easy as it first seems** and I'll try to educate you on those parts of the process I found particularly difficult or confusing. The good thing here is – if you get in totally over your head you can box the whole mess up and send it off to one of the windshield repair places and they can install new glass (complete with the proper date mark if you desire) and put it all back together again for you – all it takes is a little \$\$.

## **REMOVAL: REMEMBER RULE 1 – *You are working with a piece of GLASS!!***

I have to tell you – getting the windshield and frame off the car body is the hard part – taking the frame apart, putting in the new glass or gasket is a difficult process – but getting to the various bolts under the dash – BOY!!! You will need the package tray, seats and the heater diffuser box out as well as the dash end caps off. From there you can start the process of removal. As you can see there is very little left intact in the cock pit of this car.



The windshield frame is held to the car body with a total of 12 bolts – two bolts at each end are actually studs (5/16X18) in the side frame assembly. The picture at the right shows those studs – obviously, in this picture the frame is already off the car – it makes it easier to see how the bolts are set up.



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The studs have 1/2" nuts on them that you can get to with a socket if you lift up the edge of the dash pad at the ends. Be advised, I had to use a universal joint socket to get to the rearmost nut on each side.



Somewhere in a previous life, someone had the windshield off this car because they had enlarged the access hole so that it is easier to get to the nuts. You can see where the hole was cut with – probably, a key hole saw. Not very professional, but access to the nuts must really be difficult without that hole being enlarged. Once the four 1/2" nuts are removed from the side frame assemblies, the hard part starts.



The front part of the windshield frame is secured to the body with 8 bolts (12X24 with 7/16" nuts), you have to crawl under the dash to remove the nuts on these bolts. Now, you need to understand that there are lots of bolts under the dash that look like they could be the ones holding the windshield frame to the dash. The fact of the matter is – they all don't hold the frame on and the process of determining which nuts need to be removed and which don't is part of what makes this so much fun. There is a clue that can help you in the process. The first small bolt is visible in the picture above in the first **removal** paragraph – that bolt is about 6 inches forward of the rear most stud on the side post assembly – after that, the bolts are on 9 inch centers – so bolts that are not 9 inches apart probably don't help hold the frame down. This picture shows the first bolt hole at the left edge of the light spot and the next hole 9" away at the top right of the picture.





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Under the dash is a jumble of wires, defroster hoses, wiper cables, etc. Getting to the nuts takes a serious amount of patience. The picture at the right shows the passenger side wiper transmission and the defroster outlet. You don't have to take the defroster outlet loose but you will have to be a magician to get the frame nut off that is tucked under the outside edge of the defroster outlet. There is a second bolt to the inside of the defroster outlet that does not have anything to do with the frame assembly. I have taken the defroster outlet loose because – I'm not a magician.



This picture shows the drivers side and even David Copperfield would not be able to get the frame nut off without dropping the defroster outlet – well, perhaps you could if the framework that holds the brake/clutch pedal and steering column were out of the car. It is a very difficult job just to get the defroster nuts off by themselves, getting them back on will be a genuine treat!!!



Once you have the four side post bolts and the 8 front frame nuts off you can grasp the frame by the side posts and lift and rock the frame loose from the car. Now a couple of points – first, you need some help here or you have to have a build something like a Gorilla because the frame is fairly wide and you kind of need to do both sides simultaneously. Second, if the frame has never been off the car it should come loose with just a little resistance – if it has been off before and someone used silicone caulk to stick it down and seal it – you are in for a treat!!! If it doesn't move with moderate effort, first go back and verify that you actually removed the correct nuts securing the frame down – if one is still intact it is going to be tough to get the windshield loose regardless of your build.



Once the frame is loose from the body, lay it face down on a padded saw horse or suitable work bench. Handle this thing carefully, the frame provides only moderate support to the

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glass and it would be pretty easy to crack the windshield – remember, that’s an additional \$400 + investment if you have to replace an otherwise serviceable windshield.

You will need to remove the 8 screws holding the frame together. There are 2 flat head screws at the bottom of the side post assembly where it connects to the bottom frame – just ahead of the two studs. The picture at the right shows the two flat head screws. In addition, it shows a common problem – the front tab on the side assembly is broken off – you can see the crack filled with sealer between the middle stud and the middle flathead screw. The second picture displays the broken part a little better. This needs to be fixed before you reassemble the frame. Send the broken side post assembly to Corvette Central and for about \$65 they will machine the parts and screw them together making a “good as new” part. Also, this is a good time to send the two side post assemblies off to be rechromed – they will most likely need that done. Rechroming will run \$100 to \$220 **each** depending on where you get that accomplished. The top and bottom frame molding is stainless so you might want to get the buffer out and go over that while you are waiting for the newly chromed side post assemblies.



The other 4 screws are at the top of the side post assembly – two screws on each side. They are not terribly clear in this picture, but one screw is to the left and one to the right of the hard/soft top pilot hole. The obvious screw hole to the left of the pilot hole is the mounting hole for the sun visor. The last screw to the left is one of 4 that hold the stainless molding to the upper frame assembly. I removed those screws but I don’t believe that they need to be removed as the stainless and frame assembly seem to stay together through out this operation.



Once the four screws are out, grasp the top of the side post assembly and try to pull it apart from the top frame assembly. If it moves, just pull it out ¼” or so. Then grasp the bottom of the side post assembly and try to pull it out of the bottom frame assembly. As above, if it



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moves, just pull it ¼” or so. Then return to the top and pull it apart some more – you’ll have to wiggle this around to get the parts apart. And, if someone has put this together in the past with silicone sealer or caulk – good luck!!! I’ve heard that people have resorted to rubber hammers to beat the parts apart – but that really won’t be necessary if the original sealer is still in place.

Once the side post are removed you and just pull the bottom and top frame assembly loose from the window glass. Most likely, the old rubber channel assembly will stay stuck to the window. You will need to clean the old rubber channel assembly off the window glass and throw it away. I suspect that you will find the rubber about as hard as coal. It is not a bad idea to mark the bottom edge of the glass at this point. Once out of the frame, it is easy to confuse the top of the glass with the bottom.



The next move is to clean all the old sealant and putty out of the channels of both the frame and side post assemblies. The sealants used by the General will clean off pretty easily – even after 40 + years the putty was still soft and pliable. If you have a frame where silicone sealer was used it will take a little longer. On the side post assemblies for my ’61, there was an ink stamping of a May 19, 1961 date and there was an extra small plastic spacer cemented in the top of the post channel – I didn’t find any such a marking or the plastic spacer for the 1958 frame I used for parts.



When cleaning the upper and lower frame assemblies, pay attention to the floating anchor plates found at each end of the frame assemblies. These pieces have threaded holes where the screws removed from the side post assemblies attach. In both cases (upper and lower), these pieces will be immersed in the putty and won’t be immediately noticeable.



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There is a difference between the top and bottom anchor plates – the top plate being the bigger of the two. Keep track of these things as you will need them during reassembly.

Before reassembly is a good time to chase the threads on the side frame studs as well as the bottom frame bolts. The threads will be full of old putty and a small amount of rust.

And, while you are cleaning things, don't forget to clean the windshield channel on the body of the car. There will be old sealer there that should be removed. Incidentally, unless your car has had a complete body off restoration it is likely that the paint in the windshield channel is original and should look pretty fresh since it has not been sun faded. This will give you a pretty good idea of the base color of your car when it was new – of course; this won't help you determine the color of the coves unless the car was a single color car.

This ends the removal portion of the process.

## CHANNEL REPLACEMENT:

I assume that you had all the necessary parts to complete this project before you started.

However, this is a good point to go over the parts required to put the windshield and frame assembly back together again. First and foremost, you need the new channel assembly gasket (I've had the one in the picture, a GM part, since 1982 – replacements may vary slightly from this one.). And, during disassembly I'm certain that the foam rubber filler used in the top frame was destroyed.

There is a rubber strip that goes between the lower frame assembly and the body that may need replacement. The final gaskets to have on hand are spacer gaskets that go under the side posts – these gaskets help adjust the frame to be level on the car. I suspect that not having the correct amount of spacers here results in the broken ears on the bottom of the side post assemblies. Finally, it would be a good idea to have some extra nuts and washers on hand for the reinstallation process – you are gonna drop some of them before this is all back together again!

Most of these parts will be used in the reassembly process but you will need the channel gasket and the sealer (mentioned below) during this portion of the process.





Based largely on an article in the NCRS *Corvette Restorer Magazine* from the Summer of 1994. In addition to the rubber parts, you will need some sealer to seal the gasket to the glass it self. The stuff used, originally, by the General stays pliable through out its life and seems to clean off pretty easily. That material is no longer available but the recommended sealer is a 3M product called “Auto Bedding and Glazing Compound 08509, 1/10 Gallon (US) Cartridge.” According to 3M, this is a “Non-hardening, pliable, water-resistant, medium-bodied sealer for sealing auto seams and between windshield rubber and car body. Can be used as a supplementary sealer for auto glass installation.” Some people call this “Never Dry.” This comes in a tube that you use with a caulking gun.



The rubber channel has to be installed so that it is centered on the window glass. That is because of the flap on the bottom inside of the rubber channel that covers the front edge of the dash pad where it approaches the windshield.

I found it difficult to determine, exactly, the center of the windshield because of the rounded corners. So, I created a solid measurement point by placing the window, bottom side down, on a flat surface (the floor) and then measuring up an equal amount and marking a spot on each side that I could measure to.



After that it was merely a matter of measuring from the marked spots to the center of the bottom of the windshield. For installation of the rubber channel I don't believe it is necessary to mark the center of the top of the windshield. However, a top center mark will be helpful when remounting the upper frame assembly.



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Next measure the channel gasket and mark the bottom center of the gasket.

Put the gasket on the window, **without any sealer**, to make certain that the gasket fits properly. Start at the bottom center and match that center mark to the one on the gasket. Fit the window glass into the channel. I found two things – 1, you need about 8 hands to put the rubber in place and keep it there. While as a young man in the back seat of my '57 Chevy I was accused of having 8 hands – it wasn't true then and it certainly isn't true now. So, I got out a batch of clamps and found that I could hold the rubber in place on the window while I was fitting the glass to the rest of the channel.



As I mentioned I've had this rubber channel for a number of years and new ones may fit differently. However, in this case I found that I had to stretch the rubber substantially to get it to fit. **Remember Rule 1.** So, I carefully stretched the rubber as I installed it so that the bottom centers remained in agreement and the rubber encircled the window.



Once certain that the gasket will fit the window properly, peel back the gasket and put a small bead of sealer in the gasket channel – probably an 1/8" diameter bead will be sufficient. This helps hold the gasket in place during reassembly as well as seals the rubber to the glass itself. I found that the clamps mentioned above came in handy here as well. I could place a clamp in front and back of where I was peeling the rubber back to put in the sealer. I gave myself about 18" or so of working room between the clamps and would move the clamps around the working area as I progressed around the window.



This ends the part of the process associated with installing the gasket. The next step is reassembly.



## REASSEMBLY:

**NOTE:** *Some of you sharp eyed restorers may notice that the remaining pictures may look a little staged. They were – first, as this was written, the Bedding Compound hadn't come in yet and second, the newly rechromed side posts were still at the chromer. So, since I didn't want to have to do the complete installation over again when those parts arrived – I staged these photos to give you a reasonable example.*

This portion of the process deals with reattaching the frame to the window and rubber channel. The frame tends to have a friction fit on the rubber channel so it may be necessary to use some soap or other non-petroleum based lubricant to allow the rubber to slip into the side post and upper/lower frame assembly slots. And, you are probably gonna want that rubber hammer!!!

Important in the reassembly process is having the proper calking material to go in the frame and to hold the anchor plates in place. The original GM putty is not available; but, 3M has a suitable substitute. This is 3M™ Strip-Calk 08578 Black, 60-1 ft Strips per box. 3M says this is a “Soft non-hardening caulking material in one foot lengths for use in all types of seams, joints and openings. This product is easily thumbbed into place and smoothed with a finger. It may be painted immediately.” This is good stuff and you can, also, use it when you mount your chrome trim pieces on the car to seal the hole around the trim mounting spike.



Place a strip, or two, of the Strip-Calk in the center of the bottom frame assembly. The Strip-Calk is supposed to fill the space between the bottom of the slot in the frame assembly and the rubber channel gasket. Place some Strip-Calk between the frame and the floating anchor points and some Strip-Calk on top of the anchor point. Try to center the anchor points in the lower channel so that the threaded holes are in the middle of the slots in the frame. These holes will have to match up with the bottom holes in the side post assemblies. They probably won't line up, at least at first and you will have to “**CAREFULLY**” use an awl, scribe or something to move the anchor one way or the other in the slot to match up the holes so that you can insert and tighten the screws.





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**And, while on the subject of tightening screws – DON'T tighten the screws on the side post assemblies until both side posts are in place and you are satisfied with the fit. At that point, you can tighten things down.**

While putting calk on the bottom channel stick some calk under the heads and around of the “T” bolts used to secure the frame to the body of the car.



Measure and mark the center of the bottom frame assembly. Carefully, slide the bottom frame assembly over the channel gasket keeping the center mark on the windshield and on the frame assembly aligned. This is easier said than done – be careful, take your time and work it down over the gasket – this is a friction fit so expect some resistance. As I'd indicated above, you may need some lubricant to help slide the frame over the rubber channel. While it is important to keep the center lines close – you will find it easier to start the frame assembly over the rubber channel from the ends. I put the glass on the floor, top down, so I could press straight down on the bottom frame assembly to seat it on the rubber channel.



Place a bead, or two, of Strip-Calk in the top frame assembly – as above, this should fill the gap between the frame assembly and the bottom of the rubber gasket. In addition, in the upper frame assembly there is a piece of sponge rubber that goes in the top channel – apparently, they found that the windows and frame had more space than was desired in the top portion of the frame assembly and installed this sponge spacer. Place the top frame assembly over the rubber gasket being careful to have the frame fairly closely centered on the top of the window.



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Also, as mentioned above, place Strip-Calk under and over the floating anchor points. As the side posts are put in place the top and bottom frame assemblies may have to be moved slightly from one side to the other to get a perfect fit.

Put a bead, or two, of Strip-Calk in the channel of each side post assembly. Carefully work the side post assemblies into place in the frame. They should, with minor resistance, slide into the ends of the top and bottom frame assembly. I expect you may need the rubber hammer here. The upper frame assembly expands with the rubber channel and that part of the frame has a very close fit into the top of the side post assembly. The last half inch you see in the picture is a bit of a problem!!



The bottom goes into place very easily. The top is the problem. You will want to put some Strip-Calk at the joint where the top and bottom of the side post assemblies fit together. Once both sides are in place and you are satisfied with their placement. It is time to put the four (2 flat head on the bottom and 2 chromed screws in the top) screws in the side post assemblies. This is often a very ticklish process – most certainly you will have to use a scribe or something to move the anchor plates into position so that they will accept the screws. Be very careful, while there is a rubber channel gasket between the floating anchor and the glass of the window it is possible to get heavy handed and push a sharp scribe through the rubber and scratch the edge of the glass – if this happens – most certainly the glass will crack! (Been there, done that!!!)



Once the anchor plates are aligned, replace the screws – don't tighten until all 8 screws are in place. Once you satisfied, tighten the screws.

At this point, I would carefully clean the windshield and remove excess putty and sealer. The window will get dirty again before you get it fully installed back on the car but it is easier to clean there on the bench so I'd get the worst of the mess cleaned up/off at this point.

This finishes the reassembly of the frame. The remainder of the process is associated with the reinstallation of the frame and window onto the car body.



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However, before we move on to reinstallation, a word about the differences in the side post assemblies is in order. I replaced the broken side post assembly on my '61 with one from a '58 frame. As near as I could tell they were identical except for the fact that my '61 was equipped with sun visors and the '58 was not. As a result, there was a threaded hole missing in the top of the side post assembly where the end of the visor would be secured. You can see the difference in this picture – the left assembly has the visor hole. I drilled and tapped an appropriate hole before I sent the side posts off to be rechromed.



## REINSTALLATION:

Carefully turn the window assembly over so that the bottom frame assembly and the 4 studs on the side post assemblies are exposed.

There is a rubber strip that goes between the lower frame assembly and the body of the car (the curved side of the rubber strip goes towards the frame and the flat side towards the car body) as well as some rubber spacers that fit over the base of the side post assemblies. The purpose of the rubber spacers is to try to even out any differences in height between the base of the side post assembly and the bottom of the rubber strip where it contacts the car body. Take some time while the window assembly is on the bench to look at the height differential.



When you tighten the windshield bolts down in the car, if there is much difference in height between the side post and bottom frame rubber things will be tightened in a bind – usually, this bind can result in breaking the front ear off of the side post assembly. The frame and side post bolts can be tightened pretty snug but you don't have to over tighten them, after all there is rubber between both the frame and the side posts and the car body. You over tighten and the rubber will be over stressed or "squashed" and you are liable to break the side post ears off.

Put a bead of the Strip-Calk between the bottom frame and the rubber spacer. Place the rubber spacer over the bolts on the bottom frame assembly. Press the spacer down on the frame assembly – the Stick-Calk will stick to both parts and hold the rubber spacer in place.



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Place some Stick-Calk on the side posts between the base and the spacers. Press the spacer gaskets into place on the side posts.

On the body of the car, run a bead of Strip-Calk in the windshield channel between the bolt holes. When the windshield frame assembly is put on the car – the rubber spacer gasket should flatten this strip of calk out sealing the windshield to the car body. I believe that you could use something besides the Strip-Calk here but it seals nicely and allows you to be able to take the windshield off the body at some future date – anything else will probably set up like glue.

Using a helper, lift the window and frame assembly up and lower it onto the car body – making certain that the lower frame and side post bolts go through the appropriate holes.

Reinstall all the nuts and washers removed earlier when the windshield assembly was removed from the car. Tighten the bolts carefully – I try to tighten them equally with the final tightening from the side posts towards the center of the windshield.

Reinstall the package tray, the seats and anything else you removed to get to the underside of the dash.

Wash the window and polish the chrome/stainless and you are finished. A VERY tough job well done. Hopefully, you won't have to do this again for another 40 + years.

I would not expect the windshield frame or the rubber channel to leak even in the most difficult of storms – but if it does, it is very unlikely you'll be able to differentiate that leak from the rest of the leaks common to C-1 Corvettes.



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1961 CORVETTE

Bill & Karol McClean - Scottsdale, Arizona



## Changing Your 1958-62 Windshield

By John Bellmore, Jr.

One of the most unpleasant jobs involved in repair or restoration of 1958-62 Corvettes is windshield removal/replacement and disassembly/reassembly. Having done a few, just the anticipation can be discouraging.

Once in the right frame of mind, let's get some tools together:

- Phillips screwdriver
- Straight (blade) screwdriver
- 1/4" drive ratchet
- 1/4" extensions
- 1/4" swivel
- 1/2" socket
- 7/16" deep & regular sockets
- Scraper
- Magic Marker
- Flexible tape measure
- Awl
- Windshield sealer and non-hardening putty
- Caulking gun
- 12-24 tap & die
- 10-32 tap & die
- 1/2 x 16 tap & die
- 7/16 open-end & box (combination) wrench
- Small Ziplock freezer bags
- Assembly Manual and/or ST-12 Shop Manual
- Droplight
- Rubber mallet

Removal (in order): As each component is removed, place screws in individual Ziplock bags and identify.

- Dash end caps
- Lower console trim
- Package tray
- Heater cover
- Kick panels (removal of door sill plates may be needed to prevent damage to panels)

Carefully lift up the instrument panel pad at the trailing end. You'll see the 2 nuts (1/2") to be removed from the windshield post. Further to the front, also under the pad, the 7/16" nuts begin. This is the same pattern on both sides. Most of these are not difficult to access, but, there are two located near the defroster outlets (one on each side); they are located on the outside of the outlets. The passenger side is difficult but much easier than the driver's side. You may find it easier to remove the defroster outlets, but it can be done without doing so. There are 2 nuts located near the inside of the outlets, these need not be removed.

Toward the center, 2 braces attach to the windshield bolts and the firewall near the wiper motor. Also, note and mark with the magic marker the location of the wiring hangars.

At this point the assembly is ready to be removed from the car. With a helper, grasp the windshield posts and lift the entire unit off the car and place it on a padded bench for disassembly.

Remove all screws top and bottom. Grasp the end post and pull away from the glass and out from under the top and bottom trim. Some resistance will be encountered, but it will come apart.

You'll note at this point that the lower tabs on the post are probably broken. This is most often the case, but you might get lucky. Although possible, do not attempt to reassemble the unit without having them repaired\*. These tabs are critical to alignment and proper seating when reassembling.

Next, mark the back of the lower trim at the edge of the lower channel. This will assure you that it will be in the same place for reassembly. Pull the lower trim and channel away from the glass. Remove trim from the channel by lifting out. *Note alignment plates.*

Remove upper trim and channel by pulling away from glass. Again, note alignment plates. Thoroughly clean all old sealant and putty from the components. Inspect, and if needed, replace



frame to body main and end gaskets. At this time be sure to use a good sealer under the new gaskets.

Take the new glass gasket and fold in half by aligning the lower inside tabs. Mark center top and bottom. Next find the centers of the glass top and bottom and mark. Also, mark the center of the lower trim and channel and the upper channel. At this point remove the "T" bolts from the lower channel and clean threads with 12-24 die. Also, clean the post bolts with the 5/16 die. Alignment plates may also be done at this time. Begin assembly by installing tee nuts and putty around the holes. Snap on the lower trim and check previous mark in rear to assure proper alignment.

Put a 1/8" bead of sealant inside the entire glass gasket. Align center mark on top of gasket to top of glass and work out both ways from center. Invert glass and continue installation on bottom. Be sure the bottom center of glass is aligned with the center mark of gasket. This is very important to the finished product.

Seal the top side channel, without trim, and press down over glass making sure the centers line up.

Seal the lower channel and inside lip of lower trim. Again, align centers and push on to glass.

Insert floating alignment plates into ends of channels. Seal the post channel and push onto glass noting forward part of post slides behind lower trim butting the channel and upper part lies over upper channel. Use a small amount of sealer where parts join, butt, or overlay.

Using an awl, align floating plates and insert screws accordingly. Do not tighten until all screws are installed then snug. Do not overtighten.

Now that your windshield is back together and you're very proud of

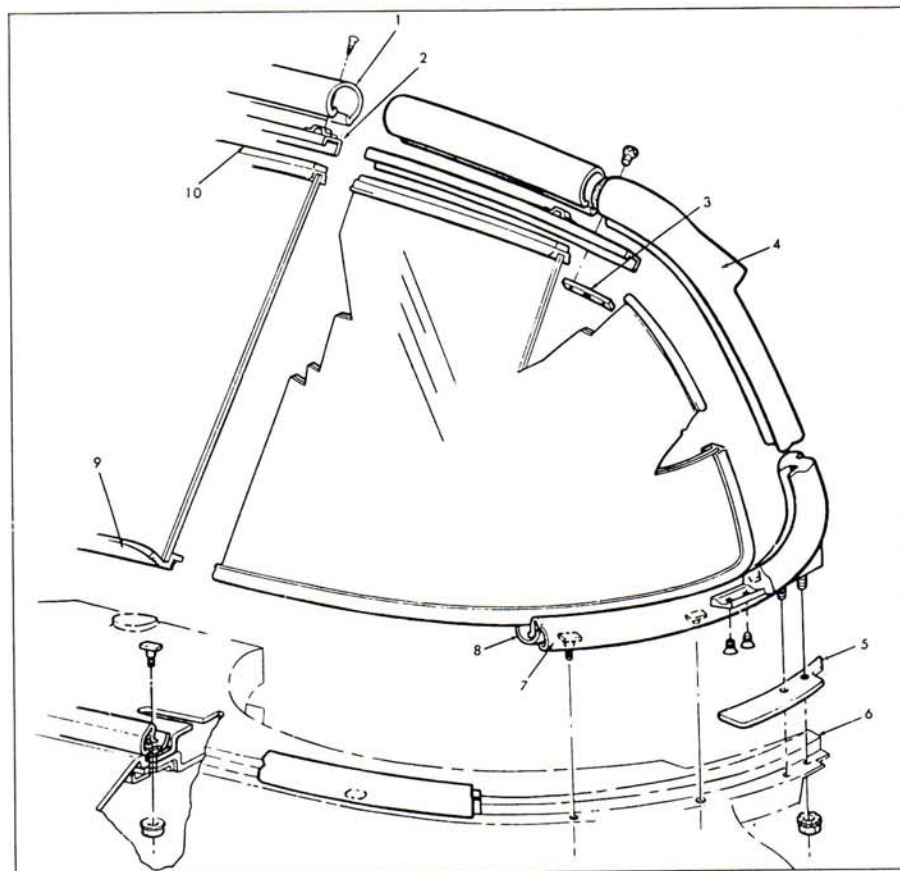
yourself, you may lay a bead of sealer on top of and in front of the main gasket and on top of the trailing gasket.

Re-install it on your car by reversing the removal procedure. When done, seal the top edges of the post and snap on and secure the upper trim.

This is a time consuming and sometimes tedious task. But, I feel someone with patience and some mechanical ability can accomplish it with excellent results. Goodluck.

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Windshield Assembly

1. Header Molding  
2. Upper Frame  
3. Anchor Plate

4. Side Frame  
5. Side Frame Spacer  
6. Body

7. Lower Reveal Molding  
8. Lower Frame

9. Rubber Channel  
10. Filler Strip

striker lid lock engagement may be adjusted at the lid lock striker by loosening attaching bolts and shifting the striker plate on its beveled anchor plate. In extreme cases to obtain proper engagement a spacer or shim may be placed between the striker plate and beveled anchor plate.

## WINDSHIELD REPLACEMENT

### Removal

1. Underneath the instrument panel, remove twelve (12) nuts holding windshield assembly to cowl.
2. Remove windshield assembly from vehicle.
3. Remove one screw from the top of each side frame assembly.
4. Remove the rubber spacer at the bottom of each side frame assembly and remove the two screws located under each spacer.
5. Remove each side frame assembly from the glass and channel. Pull to the rear and out at the same time. It may be necessary to use a rubber hammer.
6. Remove the header molding and upper frame assembly as a unit. Fig. 8 shows an exploded view.

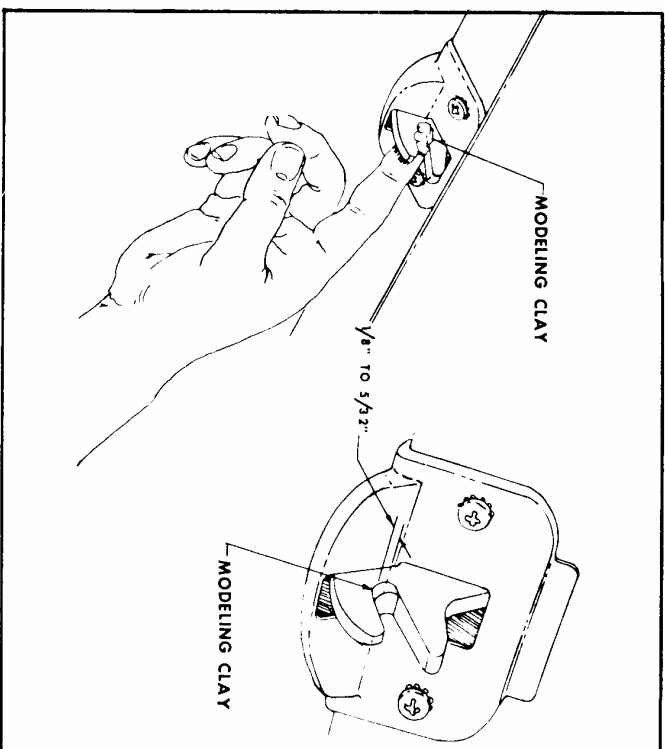


Fig. 7 Rear Compartment Bolt and Striker Check

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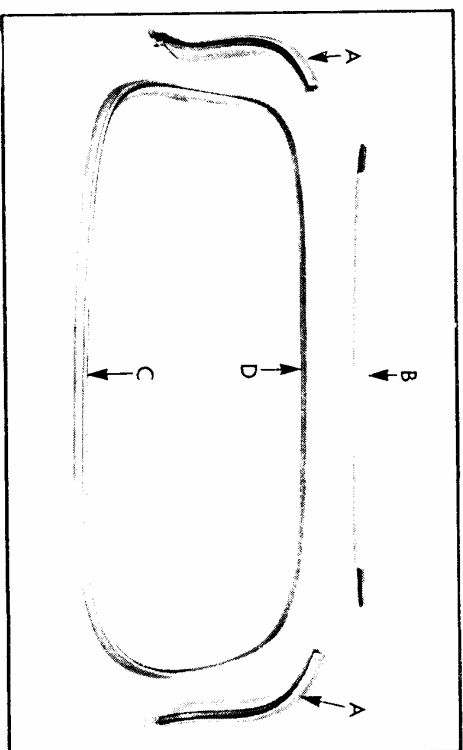


Fig. 8 Windshield Assembly - Disassembled

7. Remove rubber channel from top and sides of windshield.
8. Remove the windshield from lower frame, leaving the bottom of the rubber channel in the lower frame.

### Installation

To install the windshield, reverse the removal procedure. Use a heavy ribbon of a medium bodied sealer between the rubber channel and the side frames and upper frame. A vegetable soap may be utilized to aid in installing the side and top frames over the rubber channel. Seal the outside lip of the rubber channel to the glass with a weatherstrip adhesive. Use body caulking compound between windshield assembly and cowl.

### SIDE DOOR GLASS

Side door glass removal is similar for manually or electrically operated windows.

1. Remove trim pad, molding and trim rail from door. Remove door top reveal end molding and remove inner seal assembly (upper garnish molding retainer).

**NOTE: On electric window models, disconnect battery.**

2. Remove two large access hole covers.
3. Remove rear glass run channel.
4. Loosen adjustable bumper and upper limit stops on door inner panel.
5. Remove two screws at each end of window cam track, holding glass channel to track.
6. Disengage window channel from window cam track and remove window from door. Use care not to damage lip seal

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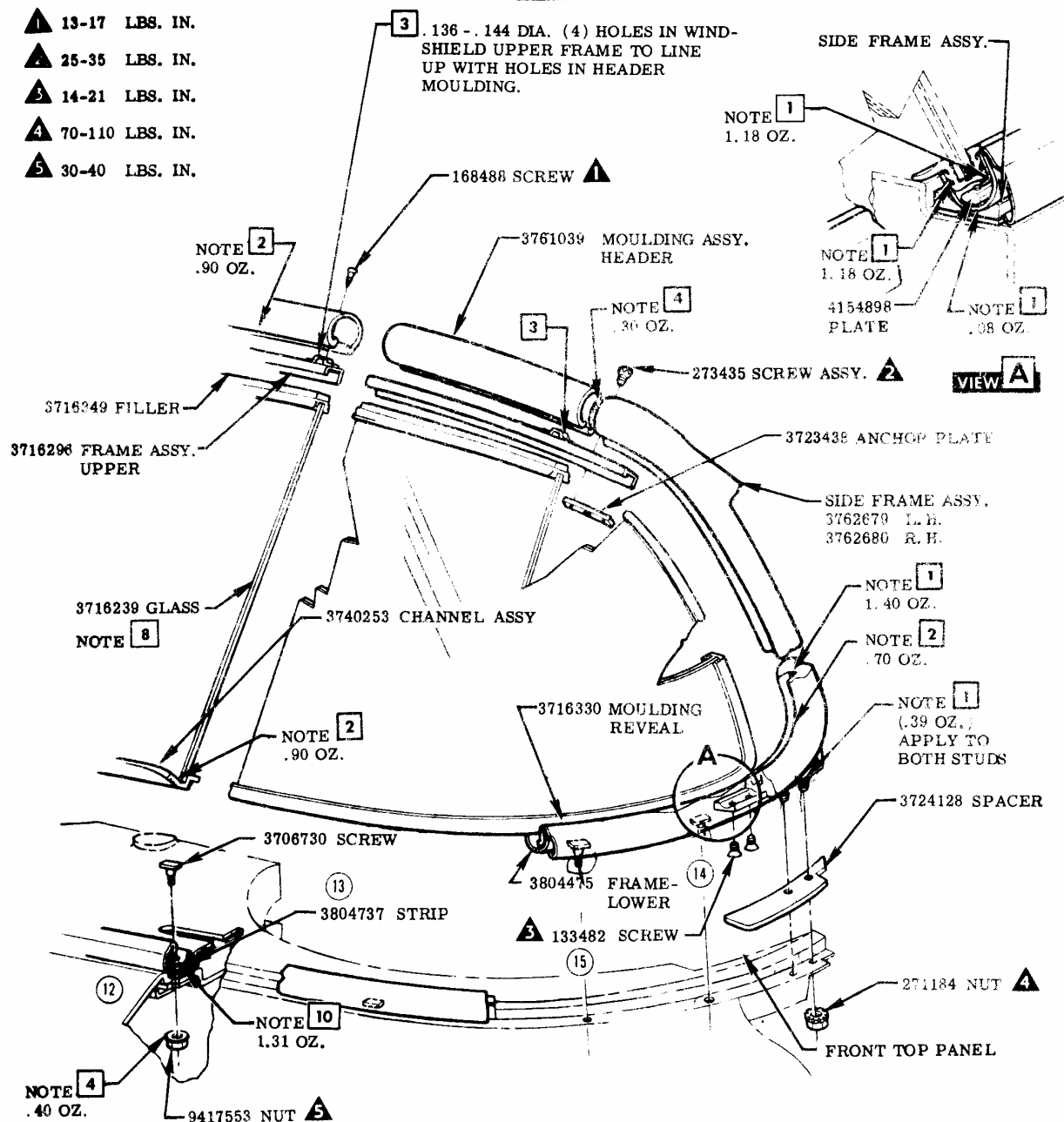
A18

CHEVROLET MOTOR DIVISION



GENERAL MOTORS CORPORATION

- ▲ 13-17 LBS. IN.
- ▲ 25-35 LBS. IN.
- ▲ 14-21 LBS. IN.
- ▲ 70-110 LBS. IN.
- ▲ 30-40 LBS. IN.



- 10 3695016 CEMENT
- 4 466943 CEMENT
- 2 3779230 CEMENT
- 1 3710408 COMPOUND

8 WINDSHIELD SHOULD NOT BE SUBJECTED TO TEMPERATURES OVER 170° F, AS HANDLED IN PAINT REPAIR OPERATIONS. A PROTECTIVE SHIELD SHOULD BE PLACED OVER THE WINDSHIELD GLASS WHENEVER A HEATED WINDSHIELD IS SUBJECTED TO WATER SPRAY OR COLD AIR BLAST TO ELIMINATE THE SHOCK OF EXTREME CHANGES IN TEMPERATURE.

CORVETTE INSTRUCTION MANUAL					3-8-61		12 DRAWING REVISED		34686 HM	
8	SHEET 2.00	DRAWN ORR	CHECKED C.B. BUCK	REF. E. C. R. 22284	DATE 5-10-60	13 WAS 3724131 STRIP				
		14 WAS 3718268 FRAME LOWER								
		15 WAS 1334825 SCREW								
					DATE	SYM.	REVISION RECORD		AUTH.	DR. CK.



# **PROCEDURE FOR CLEANING FOLDING TOP MATERIAL**

The top should be washed frequently with neutral soap suds, lukewarm water and a brush with soft bristles. Rinse top with sufficient quantities of clear water to remove all traces of soap.

If the top requires additional cleaning after using soap and water, a mild foaming cleanser can be used. Rinse the whole top with water; then apply a mild

foaming type cleanser on an area of approximately two square feet. Scrub area with a small soft bristle hand brush, adding water as necessary until the cleanser foams to a soapy consistency. Remove the first accumulated soilage with a cloth or sponge before it can be ground into the top material. Apply additional cleanser to the area and scrub until the top is clean. Care must be exercised to keep the cleanser from running on body finish as it may cause streaks if allowed to run down and dry. After the entire top has been cleaned,

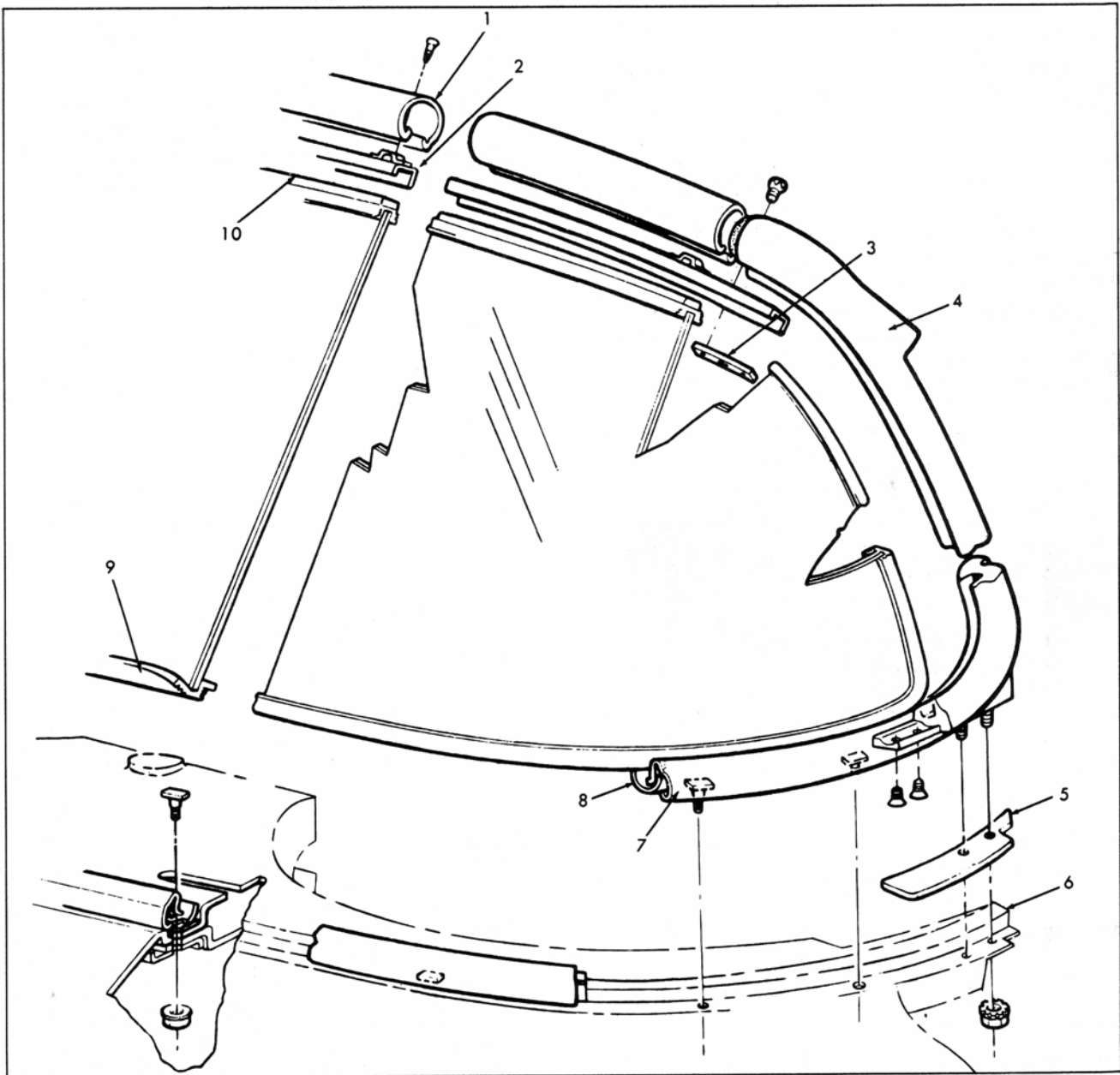


Fig. 2—Windshield Assembly

1. Header Molding  
2. Upper Frame  
3. Anchor Plate

4. Side Frame  
5. Side Frame Spacer  
6. Body

7. Lower Reveal Molding  
8. Lower Frame

9. Rubber Channel  
10. Filler Strip

## BODY 1-4

rinse the top generously with clear water to remove all traces of cleanser. If desired, the top can be supported from the underside during the scrubbing operations.

After cleaning always be sure the top is thoroughly dry before it is lowered. Lowering the top while it is still wet or damp may cause mildew and unsightly wrinkles.

Do not use volatile cleaners or household bleaching agents on the top material.

## PROCEDURE FOR CLEANING FLOOR CARPETS

Thoroughly brush or vacuum the floor carpet. In many instances the floor carpet may require no further cleaning. If the carpet is extremely soiled remove carpet from car and thoroughly vacuum to remove loose dirt; then with a foaming type upholstery cleaner, clean approximately one (1) square foot of carpet at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner. After cleaning the carpet use an air hose to "fluff" the carpet pile, then dry the carpet. After the carpet is completely dried, use an air hose to again fluff the carpet pile.

**NOTE:** If the carpet is not extremely soiled, the carpet may be cleaned in the car by applying a sparing amount of foaming type upholstery cleaner with a brush.

## FRONT END

### WINDSHIELD AND GLASS ASSEMBLY, ALL MODELS

Refer to Figure 2 for general construction details and parts identification.

#### Removal

1. Remove positive cable from battery. Remove instrument panel tray (1958-1962 only) and cowl side trim panels as outlined in this section.
2. Remove hinge pillar end caps retaining instrument panel pad.
3. At each end of windshield, fold pad up and away from panel to gain access to 3 windshield retaining nuts; remove nuts (fig. 3).
4. Remove left hand windshield wiper arm.
5. Remove the left hand wiper transmission and both defroster ducts.
6. Remove remaining windshield frame attaching nuts from under cowl.
7. Carefully remove windshield glass and frame assembly as a unit by lifting straight up and away from the car.

#### Disassembly

1. Place windshield assembly on a bench or like surface which has been covered with a soft material, such as a quilted mat, several thicknesses of clean cardboard, etc.

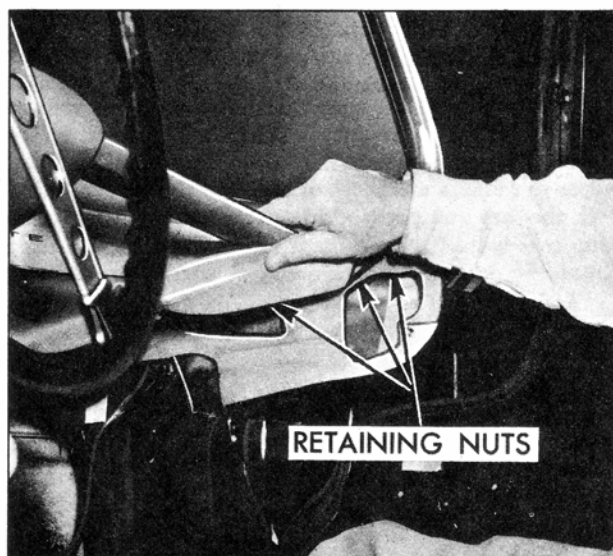


Fig. 3—Folding Instrument Panel Pad

2. Remove two screws retaining each windshield side frame to upper frame.
3. Remove two screws retaining each side frame to the lower frame assembly.
4. Remove side frame pieces by pulling away from the lower frame and sliding out at the upper frame, away from the rubber channel (fig. 4).
5. To ease alignment of frame pieces during reassembly, mark position of end of upper frame on rubber channel as shown in Figure 5.
6. Remove the rubber channel from the windshield glass with upper and lower frames attached.
7. Remove the rubber channel from the upper and lower frame assemblies.
8. Remove the header molding from the upper frame assembly.

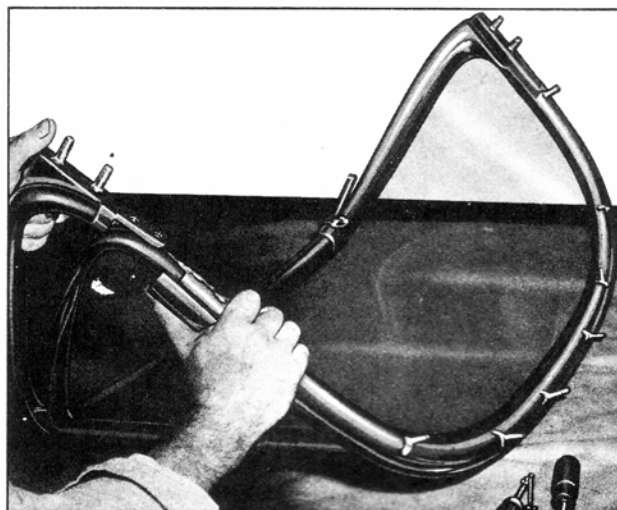


Fig. 4—Removing Side Frame



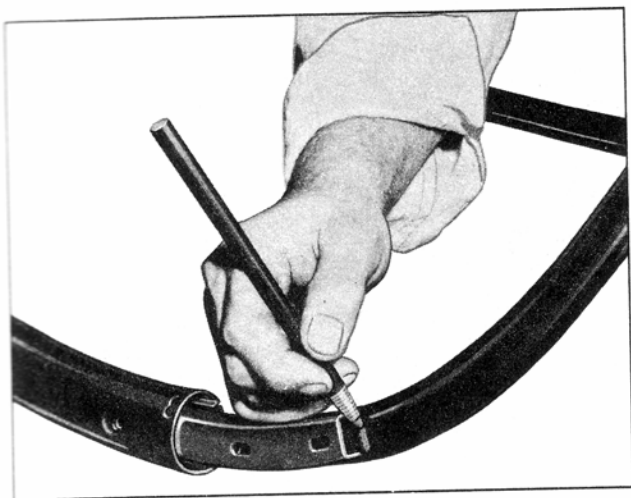


Fig. 5—Marking Position of Upper Frame

9. Inspect the rubber channel and remove any broken glass. Obtain new channel if original is damaged. Transfer indexing mark made in Operation 5 to new channel.

#### Assembly

1. Determine lower edge of windshield glass by placing the lower frame assembly and trim as a unit lightly onto the glass to check curvature. Mark glass to indicate top or bottom.
2. Apply a medium bodied non-hardening sealer to rubber channel and install channel on windshield glass.
3. Install lower frame and trim assembly.
4. Place upper frame rubber filler strip into channel of frame (fig. 6). Place anchor plates in position in channel, aligning holes in plates with holes in frame. Shift filler strip as required to fit in channel between the anchor plates. Mark strip and frame for alignment. Remove anchor plates and secure filler strip in correct position by "spot cementing" in four equally spaced one inch areas.
5. Install the upper frame onto the windshield rubber channel with one end of the channel aligned at the mark made in Operation 5, Disassembly.

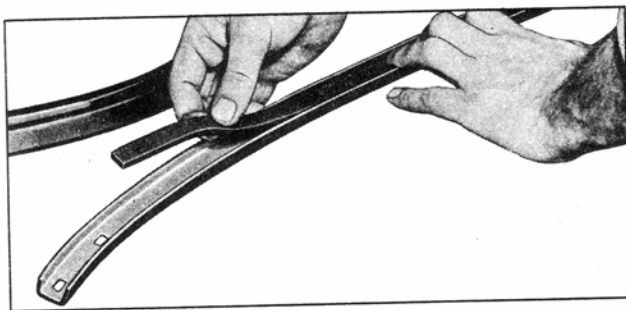


Fig. 6—Installing Filler Strip

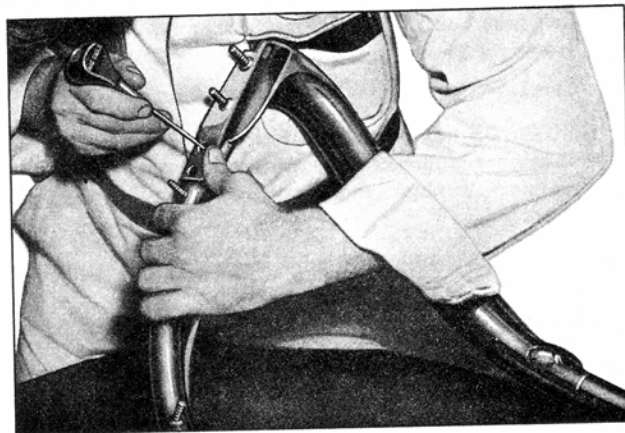


Fig. 7—Aligning Anchor Plates

6. Insert anchor plates at each end of the upper frame.
7. Install one side frame onto rubber molding, align the anchor plates at the top of the side frames and install screws. Align holes in lower flange of side frame with lower frame anchor plate (fig. 7).
8. Install screws at bottom of the side frame and secure to the lower frame. Figure 8 shows a cross sectional view of this area.
9. Repeat Steps 7 and 8 on the opposite side of windshield.
10. Install upper frame header molding over ends of both side frames.
11. Check the rubber molding on both sides of the glass to insure proper fit.

#### Installation

1. Reseal windshield frame assembly contact surfaces with medium bodied body sealer and position side frame assembly spacers on the body before installing windshield.

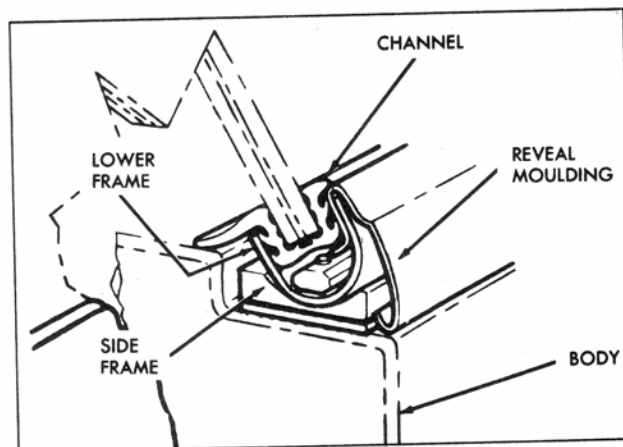


Fig. 8—View of Side Frame-to-Upper Frame Joint

## BODY 1-6

2. Position windshield frame assembly bolts before lowering frame on the body.
3. Carefully position the windshield on the body.

**NOTE:** Do not secure the bolts or tighten nuts until each bolt has been checked and properly inserted through the front top panel body holes.

4. Attach windshield frame assembly nuts under cowl. Tighten evenly.
5. Reverse removal procedures Steps 1 through 5.
6. Clean windshield glass, remove sealant from body and moldings.

## INSTRUMENT PANEL

On 1958 through 1962 models the entire instrument panel may be removed with all instruments still installed; proceed as follows:

### Removal

1. Remove positive cable from battery. Remove and tag for identification all panel lamps and electrical connections.
2. Remove mast jacket lower cover and cover support (fig. 9).
3. Remove pressure line from oil gauge.
4. Remove cable from speedometer and tachometer.
5. From under dash panel, remove the five screws retaining instrument panel assembly to dash panel (fig. 10).
6. Lift instrument panel assembly from dash panel as shown in Figure 11.

### Disassembly

1. Remove four nuts retaining speedometer cover panel to instrument bezel panel (see Figure 10).

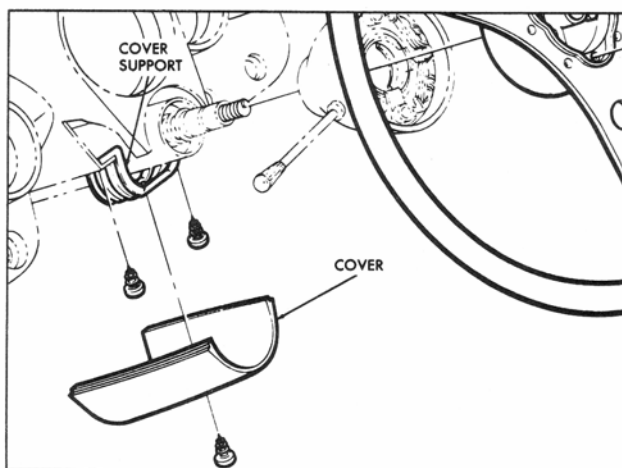


Fig. 9—Mast Jacket Cover and Support

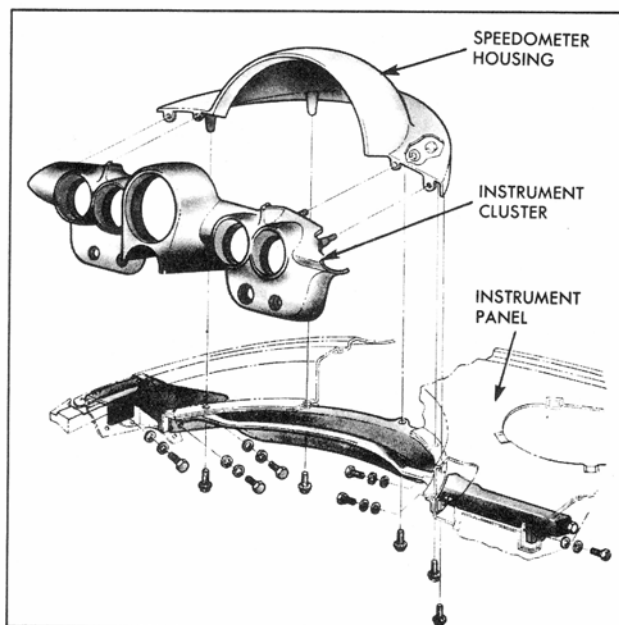


Fig. 10—Exploded View of Instrument Panel

2. With instrument bezel panel assembly on bench, remove electrical and gauge components using Figure 12 as a guide.

### Assembly

1. Install instruments in bezel panel in reverse order of removal.
2. Position speedometer cover panel on bezel panel and install 4 retaining nuts and lockwashers.

### Installation

1. Position instrument panel assembly on dash panel.
2. Align holes in dash panel with tapped holes in instrument panel, and install four retaining screw-lockwasher assemblies.

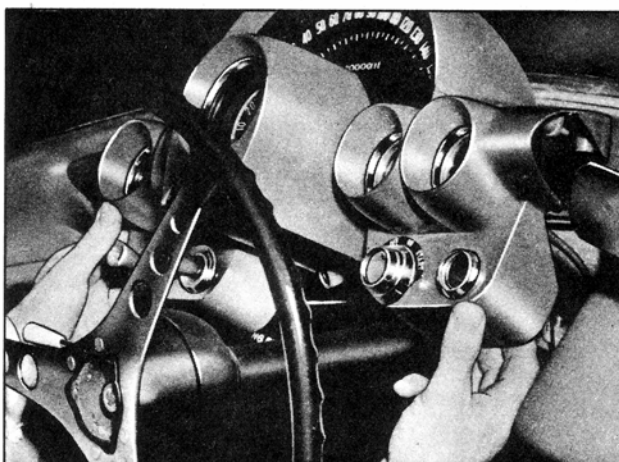


Fig. 11—Removing Instrument Panel from Dash Panel