

INTERCHANGEABILITY OF '49-'54 PASSENGER CAR AND '53-'62 CORVETTE FRONT CROSS MEMBER AND SUSPENSION PARTS

Much of the following has been covered in past articles, but cross member specifics have not been covered. The basic, BARE front cross member for '49-'54 Chevy passenger cars and '53-'62 Corvettes are the same and are 100% interchangeable. The hole spacing and dimensions of the brackets which mount the cross member to the frame (either car or Vette) is the same. There are some variations which I will attempt to cover in detail. In the pictures below (#1, #2), the stripped, bare cross member (from a '57 Vette) is shown after acid dipping and blasting.

First, notice the two bumps (red ovals) on top of the cross member with small flat surfaces.

The upper picture (#1) is a rear view of the cross member.

The next picture (#2) is a front view, with MOST of the front suspension parts shown.



On '49-'51 passenger cars, those two bumps are where 6-cyl. engine-mount holes are located, with spot welded square reinforcements around the holes.

The cross member below (picture #3) is in a '51 Chevy (which now has a V8 installed) and you can clearly see where the engine mount holes and reinforcements (white squares) are located in those two humps (again, '49-'51 pass cars only). The '52-'54 pass cars changed to side engine mounts, thus, the two humps remained but without provision for engine mounts. These humps were also on '53-'62 Vette cross members, but are completely concealed by the lower fan shroud.

On the underside of ALL cross members, there are two holes just below the humps (inset, red circle). Those holes were ONLY utilized on '49-'51 passenger cars for inserting a socket for the bolts on the underside of the '49-'51 engine mounts. But the holes remained on the underside of ALL cross members.

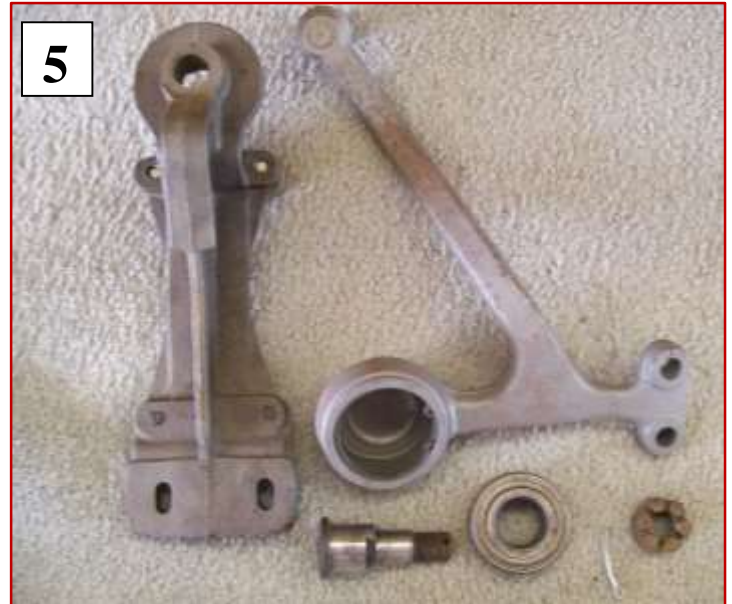
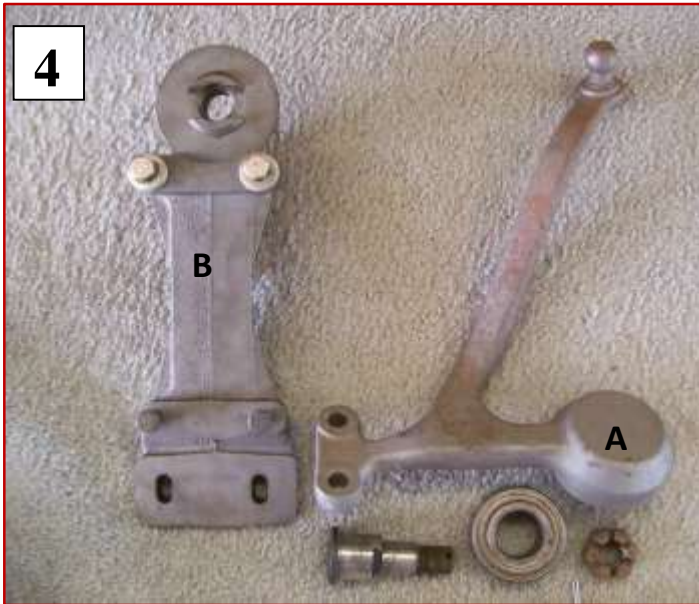


Refer to pictures #1 and 2.

At the center of the rear and front flanges, there are two holes (green circles). On the Corvettes, these 4 holes are used for attachment of the bracket for the center steering arm. The passenger-car cross members only have the two REAR holes. The reason is because the center steering arm and bracket for passenger car and Vette are completely different (see photo 6 below). The passenger-car center arm uses a kingpin/bushing type hinge and the Vette arm used a HD ball bearing (which is much better). The passenger-car steering-arm bracket was attached to the two rear holes plus one hole on top of the cross member. On top, toward the rear of ALL cross members, there is a slight flat area. This flat area is where there was a threaded hole for the passenger-car center steering arm bracket (**see picture #6**). If a passenger-car cross-member is acquired for use on a Corvette, the extra holes can be welded and ground down smooth-----but it really is not necessary because those holes will be completely covered by the lower fan shroud on a Corvette.

Also, the Corvette cross member has two additional small holes (blue squares), near the frame-mounting brackets, just above the rear flange (picture # 1). Those holes are for the clips that retain the front brake crossover line (passenger cars had the brake crossover line at the transmission cross member). The passenger-car cross member does **NOT** have those holes, so they will have to be located and drilled for the Corvette.

Below (pictures # 4 and 5) are the parts for the Corvette center steering arm (A, idler arm if you prefer) and bracket (B). **Picture #6** is the passenger-car steering arm and bracket, which has an arm that attaches to the top of a passenger-car cross member (the flat area mentioned earlier). Since the passenger-car cross member does not have the two front holes for attachment of the Corvette bracket, simply attach the Corvette bracket to the passenger-car cross member with the two rear bolts **then locate and drill the two front holes**. Too easy!



That covers the differences and interchangeability of the '49-'54 passenger car and '53-'62 Corvette cross members, but there are still several suspension parts that are shared and interchangeable between the pass cars and Vettes (as well as a few differences).

ALL of the normal rebuild parts (shafts, bushings, kingpins, seals, nuts/bolts, etc) are the same (there are some hardware differences for Vettes with HD brakes, which I'm not covering). The upper and lower A-frames (control arms if you must be exact) are the same. The spindles are the same (they're NOT left or right) -----
-----but there is a variation in spindle supports (they ARE left and right). ALL passenger-car car and Vette spindle supports are a direct bolt-on interchange. **The difference is with the '53-5'4 PASSENGER car spindle supports.** The knuckle for the kingpin on '53-4 passenger-car supports is positioned about 1inch higher than it is on the Vette and '49-'52 passenger-car supports. If the '53-4 supports were swapped onto a Vette frontend, then it would lower the front of the Vette.

"Back in the day", some racers installed 53-4 passenger-car spindle supports on their Vettes and installed the '57-'59 HD front springs to drop the frontend, which lowers the center of gravity, thus improving handling on a road course.

Below (**picture #7**) is a comparison between a '53-4 passenger-car spindle support (left) and a '49-'52 car/'53-'62 Vette support (right). It is my understanding that passenger car and Vette parts, such as the spindle supports and spindles, will have different casting numbers but yet are still fully interchangeable. The reason for the casting number differences is because extra finishing processes, such as bead blasting and maybe some kind of heat treating, were done to the Vette parts. I personally have never seen nor known of a structural failure of a passenger-car spindle support or spindle simply because it didn't have the same finishing process(s) applied as was supposedly done to Corvette parts.



DO NOT install '49-'54 passenger-car springs in a Vette frontend! Not only are the car springs taller, they also have a heavier rating. If passenger-car springs are installed in a Vette frontend, the suspension would not be able to compress. Picture #8 shows the difference.



The HD springs for 57-59 Vettes are even shorter (but stiffer) than the stock front springs (I do not have a picture of HD springs).

The passenger car and Vette share the same upper A-frames and they are NOT left and right. The lower A-frames are the same and are SORT OF left and right. Refer to the lower A-frames shown in picture #2. Notice that the drain holes for the lower end of the coil spring and the holes for the lower shock mount bracket bolt are in identical positions. **Only the brackets for the sway bar link attachment are on different sides (arrows).** If a lower A-frame needs replacement, but only the wrong side is available, it can be quickly converted for the correct side. The sway bar link bracket is attached to the A-frame with 4 spot welds. Carefully drill the spot welds, then reposition the bracket on the other side of the A-frame and make 4 spot welds in the drilled holes. Again, too easy!

The brake backing plates, brakes and attaching hardware (EXCEPT for HD brakes!) for '51-'54 passenger cars and Vettes are the same ('49-'50 pass cars used Huck brakes, thus no interchange). BUT, the L&R steering arms for pass cars and Vettes are made at different angles. Also, tie rods are adjustable on BOTH sides for Vettes. They have 4 tie rod ends that are adjustable (2 left and 2 right hand threaded). The pass cars only have an adjustable tie rod on ONE (left) side. The tie rod/ends on the other (right) side are a fixed length for passenger cars.

The front wheel hubs are also interchangeable, but the later Vette hubs were a thicker, heavier casting. Although, as far as fit and wheel bearing installation, there is no difference.

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