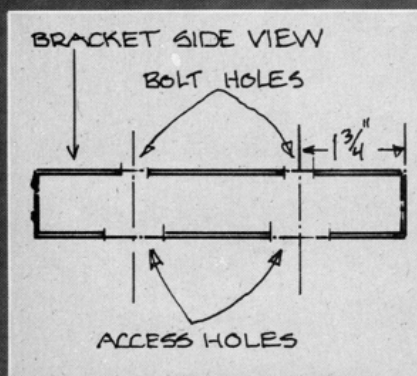
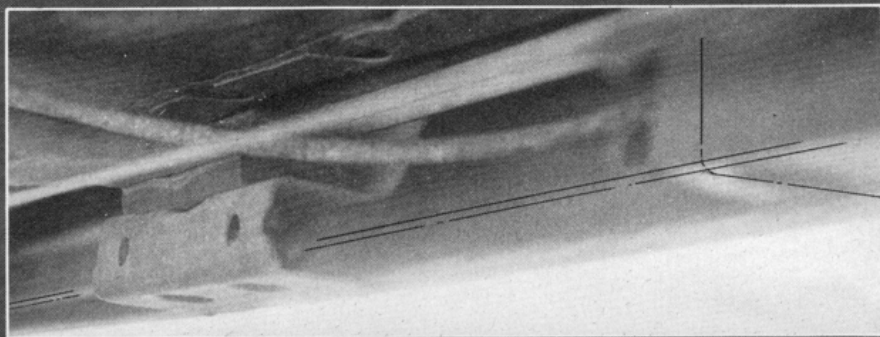


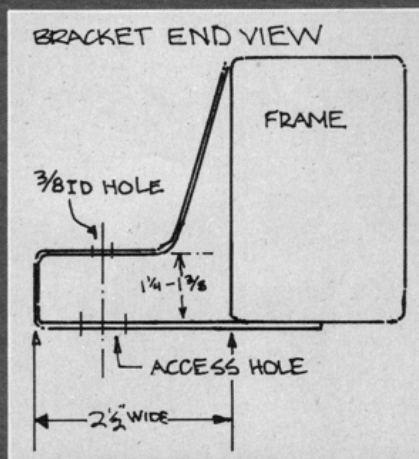
Just to the right of body mount is where the frame bracket will be located. Be especially careful around the fuel and brake lines when drilling holes or doing any welding.



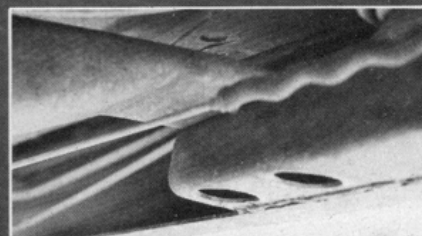
The holes for the crossmember to bolt to on the frame bracket are exactly 1 3/4-inches from each end of the six-inch long bracket. Drill the holes a little over-size to compensate for any slight misalignment.



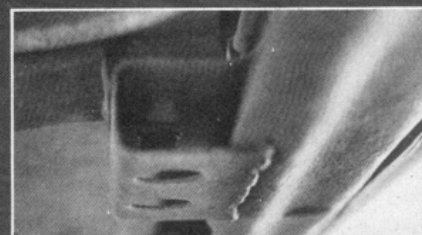
This is what the stock frame bracket for the 1984 to present GM "G" body cars with the TH700R4 automatic transmission looks like. Note the use of the rubber insulators to mount the crossmember on. If not using the insulators, take into consideration the height difference. The dimensions given in the drawing are for use with insulators.



Here is an end view drawing of how the factory GM crossmember frame mounting bracket looks, along with the critical dimensions. If you are going to build a bracket for the early frame, make sure to incorporate a support strap from the top of the bracket to the top of the frame for extra strength.



The front crossmember mounting bracket is located on the driver's side just after the frame makes its down swing to go to the rear. On all 1983 and before cars, no matter what the transmission, this is the only bracket on the driver's side of the frame.



This is an end view of the 1984 to present frame mounting bracket as it comes from the factory. Note the access holes that are drilled in the bottom of the mounting bracket. These are so a socket will fill up in the bracket so that the mounting bolts can be tightened. Don't forget these!

FIVE ON THE FLOOR

New Tips
For The
Installation
Of A
T-5 Five-Speed
In GM
"A&G" Cars

BY JIM LOSEE

Some new information has come to light in regards to the story we did on swapping a T-5 five-speed transmission into a 1978-1985 GM A-G body car. This update is to clarify the ques-



tions we have received.

The first area concerns crossmembers. There are basically just two crossmembers that can be used. We stated the same thing in the previous story, but the numbers were wrong. The early style crossmember can't be used at all, unless it is modified radically. The crossmember to be used should be the one from the 1985 Monte Carlo SS equipped with the TH700R4 automatic transmission for all V8 engined cars. The reason for using this crossmember is if you use the early style, the curve in the early member hits the lowest part of the T-5 transmission and the mounting pad is eight and a half inches too far forward. Another problem with the early crossmember is it doesn't allow the transmission to sit at the right angle for proper alignment of both the engine and driveshaft.

The reasons for using the late-style crossmember on V6-equipped cars is that it is the same as for the V8 cars, the only difference being that the V6 cars have a crossmember that is unique to V6 Buick-powered cars only. The key words here are V6 "Buick powered." If your car is equipped with a V6 Chevrolet engine, then use the late-style crossmember for the Chevrolet V8-engined cars. Remember that the V6 Buick cars are the only cars

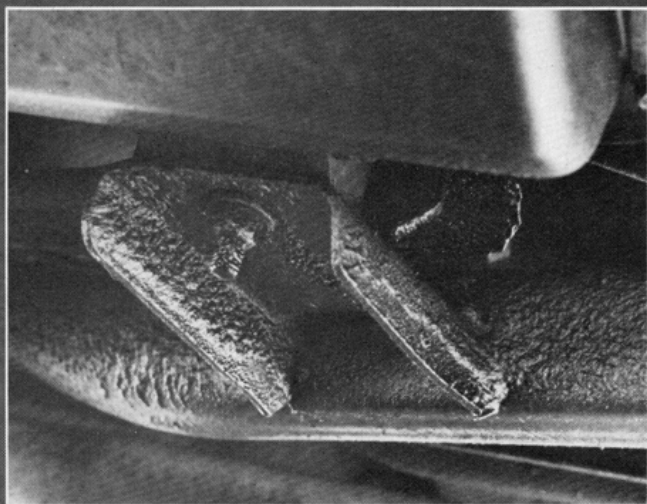
that require a special crossmember, and all other cars—regardless of engine type—take the 1985 Monte Carlo SS crossmember.

The root of the problem is the fact that when we did this conversion, we started with a 1984 Buick Turbo Regal. The crossmember frame mounting bracket was the problem. Our frame had the provision for both the early and late-style crossmembers. The difference on the frame is a matter of $8\frac{1}{16}$ -inches between the old style crossmember mount and the new style crossmember mount. Having these two different frame mounts is standard equipment on all 1984 to present GM "G" body cars, but not so on the 1978-1983 GM "A&G" bodied cars. After checking all the years involved and several different models of each, we determined that none of the 1978-1983 intermediate cars have the frame provisions for the two different style crossmembers. The passenger's side of the frame, no matter what the year, has the crossmember mount in the same place, thankfully.

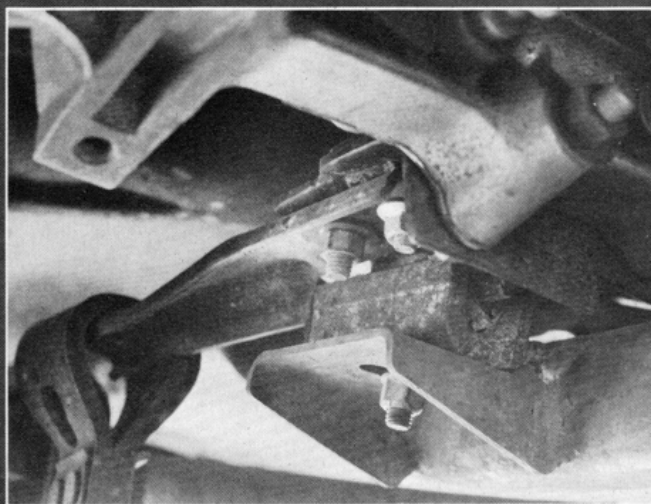
In order to run the T-5 with the late-style crossmember, a frame bracket will have to be fabricated. The basic dimensions of the factory bracket on the 1984 and 1985 frames on the driver's side are as follows: six inches across, $2\frac{1}{2}$ -inches wide, and $1\frac{1}{4}$ -inches tall. The holes for the crossmember holddown bolts are $1\frac{3}{4}$ -inches from each end to the center of each hole. The bracket itself will sit on the lip of the frame, which is about an inch wide. How to secure the bracket is up to the individual, but our recommendation is to have it heliarc welded to keep down heat and distortion. Be extremely careful of the

POPULAR HOT RODDING/39

The first photo shows the way the stock transmission tunnel support is bolted in, while the second photo shows the spacer we had to fabricate so the support would clear the U-joint and yoke coming out of the five speed. If this isn't done, the support will be torn up in a matter of seconds after initial fire up.



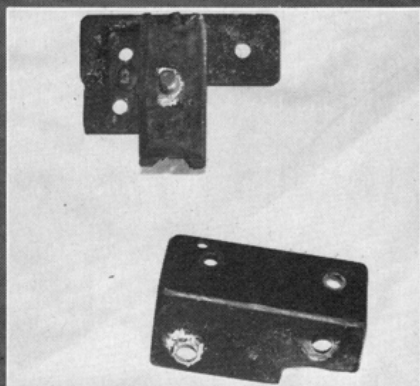
This is what the stock 1978 to 1983 crossmember transmission mount bracket looks like. Notice how the crossmember sits at an angle compared to the location of the transmission pan.



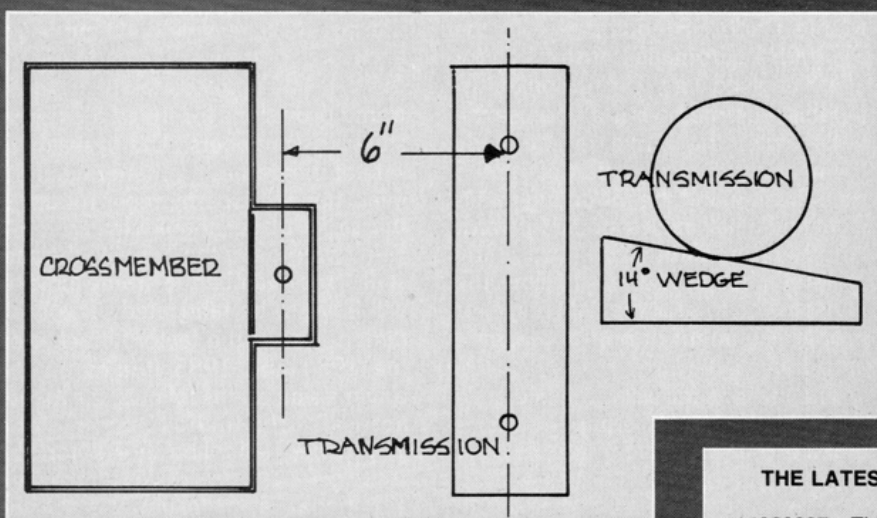
In this photo notice how the 1984 to present TH700R4 crossmember transmission mounting pad sits parallel with the transmission. Note that the catalytic converter support bracket sits in the stock location, although some clearance slots had to be ground for a proper fit.



Here's a good look at how the mounting brackets were made for utilizing the trailing arm bracket provided in the tailhousing of the T-5 five-speed from a Camaro or Firebird. Also note the 14-degree angle the transmission sits at when the stock non-Chevrolet bellhousing is used.



These are the brackets that were made to mount the transmission from the tailhousing. The bottom bracket mounts to the transmission, while the top bracket mounts to the crossmember and to the transmission bracket also.



If the vehicle has any powertrain other than the Chevrolet V6 or V8, and the transmission is not going to be mounted from the extension housing, a 14-degree wedge will have to be built to utilize the stock rubber mount. An extension from the crossmember to the stock transmission mounting location will also have to be made.

brake and fuel lines in the frame itself. Wrap a wet towel around them while welding so that the heat transfer is kept to a minimum and there is no chance of any damage to the lines.

Another thing that must be done is to put a locating brace or strap from the top of the bracket to the top rail of the frame to reinforce the crossmember bracket. The reason for doing this is to distribute the load over a broader area and reduce the flex of the bracket. To get an idea of what we are talking about in regards to the fabrication of a bracket, take a look at the drawing for the shape and dimensions. There are access holes in the bottom of the bracket, so you can stick a socket in through the hole and tighten up the 3/8-inch bolts that secure the crossmember to the bracket. Drill all the holes in a small amount oversize so that if there is any slight misalignment, the bolts will drop in.

A tip on where to locate the bracket on the frame is in order here. The first thing to do is to locate the bracket exactly $8\frac{3}{16}$ -inches from the rear-most edge of the original crossmember mounting bracket to the leading edge of the newly fabricated bracket. To

Continued on page 78

THE LATEST CROSSMEMBER PART NUMBERS

14063887 - This crossmember is for all Buick V6-powered cars only.

14063883 - This crossmember is for all other GM "A&G"-bodied cars.

All the other part numbers from page 43 of the August 1985 issue of *PHR* remain the same.

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FIVE ON THE FLOOR

check to see if the new bracket is in the proper spot, bolt the new cross-member in place with both bolts on the passenger's side and see how well the crossmember is located on the new bracket on the driver's side of the frame. This step has to be done before any welding is completed should any moving of the bracket be necessary.

If you have any engine other than a V6 or V8 Chevrolet, it will be necessary to fabricate a 14-degree wedge for the transmission rubber mount to bolt to. The reason the Chevrolet-powered cars don't need to make a wedge is because the bellhousing from a Camaro or Firebird has the transmission mounting holes already drilled at the 14-degree angle that puts the mount parallel with the crossmember. See the photo for a more clear view of what needs to be done.

The mounting pad on the cross-member is exactly six inches further back than the rubber transmission mounting location. Consequently, if you are going to use the stock mounting location on the transmission rather than the extension housing (as we have done), a bracket going from the bottom of the crossmember to the wedge or stock transmission mount will have to be fabricated. This should be made from at least 1/4-inch thick steel plate and should also be heli-arc welded. Make sure to drill all holes oversize to help accommodate any slight misalignment that may occur.

A driveshaft tunnel floor brace is located right behind the crossmember that bolts to the floor. It is extremely important that this brace is spaced away from the transmission by at least one inch. The reason for this is so the driveshaft yoke doesn't hit the brace when the clutch is dumped on a high-speed start, or when the car goes over a severe bump in the road. If the yoke or "U"-joint is allowed to hit the brace, the brace will be torn up and it won't do the yoke any good either. We had to space our brace out approximately one half an inch and therefore had to buy new bolts to compensate for the added thickness. Remember, some of these bolts are metric, so take them to the hardware store for a comparison to get the correct bolts.

This should answer all the questions and clear up any of the uncertainties that have shown themselves since the first story on the subject was written. If any of our readers have anymore input on the subject, we certainly would like to hear about it and we will let everyone know. ■

1985

HOT RODDING PICTORIAL

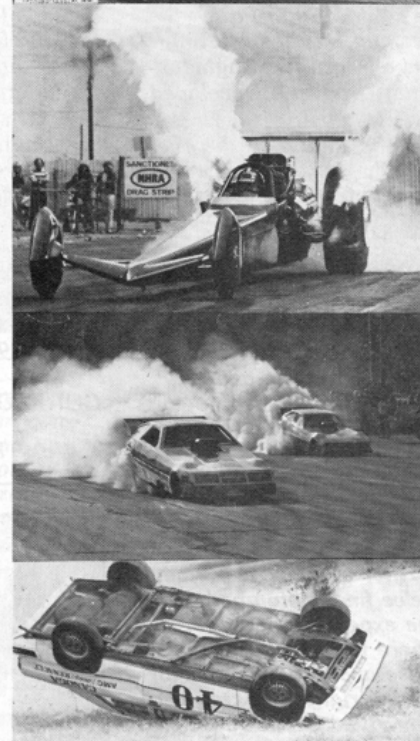
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