

Brace Yourself

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2002-10-18

A lot of people experience wheel hop when launching the car hard. Wheel hop not only causes poor starts but might also cause transmission failures.

What is wheel hop?

When torque is applied, the engine/trans wants to go down as a result. The frame horns flex down. When the tire slips, the frame horns spring back up to their free position. Then the tire grips, repeating the process.

There are several solutions to prevent wheel hop.

You could use rear engine mounts. There are reports though that over years it actually damages the body since you hang the engine onto the body off the car. Another solution would be to use braces. In the Kafer Cup series in Germany "Cup braces" were used. It is basically a 3 bar setup tying in the shock towers with the tranny frame horns.



You can also get 2 bar setups. Some of the pictures show a custom 5 bar setup. If you only use a 2 bar system you would promote flex in the shock tower. You tie in the brace with the shock tower and one side of the fork. Pulling the fork would result in the movement of the tower inwards because of the bar attached to it. I don't believe a two bar setup is that good as the shock mounts would move in and out as the wheels hopped. The cross bar keeps the shock mounts from doing this but it is still better than nothing.



The "Cup braces" require welding. With the German "Cup brace" setup you have to weld your brackets. The setup comes with a longer top shock bolt, 2 thicker tubes that are used to weld on the brackets for the long bar connecting the shock towers with each other and the shorter brace that connects the shock tower with the frame fork. It also requires you to weld the brackets to the end of the frame fork.

You can actually buy an aluminum rear tranny mount that incorporates the bracket for the frame horn so you would not have to weld the bracket on the frame horn. You can see the transmission mount in the picture but I had to modify mine because of clearance issues with the brackets that were already welded to the frame horns. I had to cut a bit off the mount.

I suggest you start with welding the brackets for the shock tower connecting bar. After that you mount it with the bar to see where to weld the bracket that connects the brace with the upper shock tower and the frame horn. I made some templates out of card board to have the correct angle. After that mount everything to see where you need to weld the bracket for the frame horn. I suggest before doing any welding for the shorter bars to bolt on the brackets to the bar and holding the bar into place to get a rough idea where the bar is going to be so that you do not get any surprises. If you use the aluminum tranny mount, bolt the brace on to the transmission mount to see where you have to weld on the bracket on the top mount.



A company in the US TGFab created a similar setup which does not require welding.....so a true bolt on modification.



If you have any questions about this article, email me.

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