



## Technical Service Bulletin

### Mark III Rear Shock Supports 080718-TSB

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Due to long term wear or sudden shock from conditions including, but not confined to, hitting an irregularity in the pavement, rough roads, wheel hop, too stiff of springs or shocks or too low of a ride height, the bolts attaching the rear shock brackets to the frame can partially or completely shear and the holes in the frame can elongate. Any one of these conditions or a combination thereof could cause an unwanted change in the rear suspension geometry. If the change is sudden or extreme enough, it may result in unexpected loss of control of the vehicle.

#### Recommended Maintenance

Visually inspect the brackets bolts and holes. A clue to an unwanted condition is an elevated angle of less than 90 degrees of the bracket to the frame. Even if the bracket is not visually tilted, it is recommended that brackets be removed and the bolts and holes be inspected for wear.



The above examples show minor wear, but an upgrade is recommended.



The above examples show the results of a total failure



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#### Upgrades on cars up to 1670 (8mm bolts)

If no elongation of the mounting holes is detectible, it is recommended, at a minimum, that you replace the 8mm, Class 8.8 bolts with 8mm, Class 10.9 bolts with a longer shank length of 2.5" as shown below.



New 8mm, Class 10.9 bolts are available at Advanced Automotive Technologies Corporation 262-673-4077 <http://superformance.org/mountupgrade> or you can use 5/16" Grade 8 bolts from suppliers such as [www.aircraftspruce.com](http://www.aircraftspruce.com) part number AN5-27A

If the holes in the frame are elongated, you can drill out the holes to either 3/8" or 10mm and replace the class 8.8 bolts with the appropriate Grade 8 or Class 10.9 bolts with a shank 2.5" long. See Page 3 for suggested bolt sources. To make this modification you will need a 90 degree drill and a shortened drill bit. Leave the bracket in place with the upper bolt to drill the lower hole through the bracket and frame at the same time and then repeat the process for the upper hole. Caution must be taken to have a very sharp drill bit that will cut the hole "true" with no wobble or elongation.



As an alternative to the original brackets, Advanced Automotive Technologies Corporation 262-673-4077 has developed their Road/Track Suspension Mount that utilizes all four of the mounting holes available in the Mark III frame as shown to the left. See <http://superformance.org/mountupgrade> for more Info.

As an alternative for those who wish to fabricate their own upgrade, we recommend that in any upgrade, you use Class 10.9 or Grade 8 bolts with a shank length sufficient to go completely through the bracket and frame on both sides. Also any modification that will decrease the leverage onto the frame bolts of the shock bracket will also add strength.



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#### **Upgrades on cars newer than 1670 (10mm bolts)**

At car 1670 Hi-Tech Automotive modified the rear shock support system to increase strength with 10mm bolts and the addition of tubes welded into the frame. Because of the tubes that are welded into the frame, elongation of the holes should not be a problem, but the bolts may show signs of shear over time and should be inspected. If the bolts show wear, including crushing of the threads, they should be replaced with 10mm, class 10.9 bolts with a shank 2.5" long. Bolts are available from Advanced Automotive Technologies Corp. 262-673-4077 <http://superformance.org/mountupgrade> or an acceptable replacement is a 10mm x 90mm long class 10.9 bolt cut to length, available from suppliers such as [www.mcmaster.com](http://www.mcmaster.com), part number 95327A647. On Cars 1670 and newer that come from the factory with 10mm bolts, replacing them with a 3/8" Grade 8 bolt is not recommended because 3/8" is .018" smaller in diameter than a 10mm bolt.

As an alternative to the original brackets, Advanced Automotive Technologies Corporation. 262-673-4077 has developed their Road/Track Suspension Mount that utilizes all four of the mounting holes available in the Mark III frame. See <http://superformance.org/mountupgrade> and photo on page 2 for more Info.

As outlined on page 2, For those who wish to fabricate their own upgrade, we recommend that in any upgrade, you use Class 10.9 or Grade 8 bolts with a shank length sufficient to go completely through the bracket and frame on both sides. Also any modification that will decrease the leverage onto the frame bolts of the shock bracket will also add strength.

#### **Final assembly and ongoing maintenance**

On cars prior to 1670 (no tubes in the frame) and using the original supports with 2 bolts, a maximum of 20ft. lbs torque is suggested to prevent frame crush. Utilizing the Road/Track brackets, or on cars after 1670 (with tubes in the frame) 30ft lb torque is acceptable. Always use nylon insert style nuts and/or Loctite #271.

Regardless of your upgrade, Regularly checking the supports as part of your cars periodic inspection schedule is recommended.