TECH SHEET: 4590 SERIES TORQUE LINKS TUNING & MAINTENANCE

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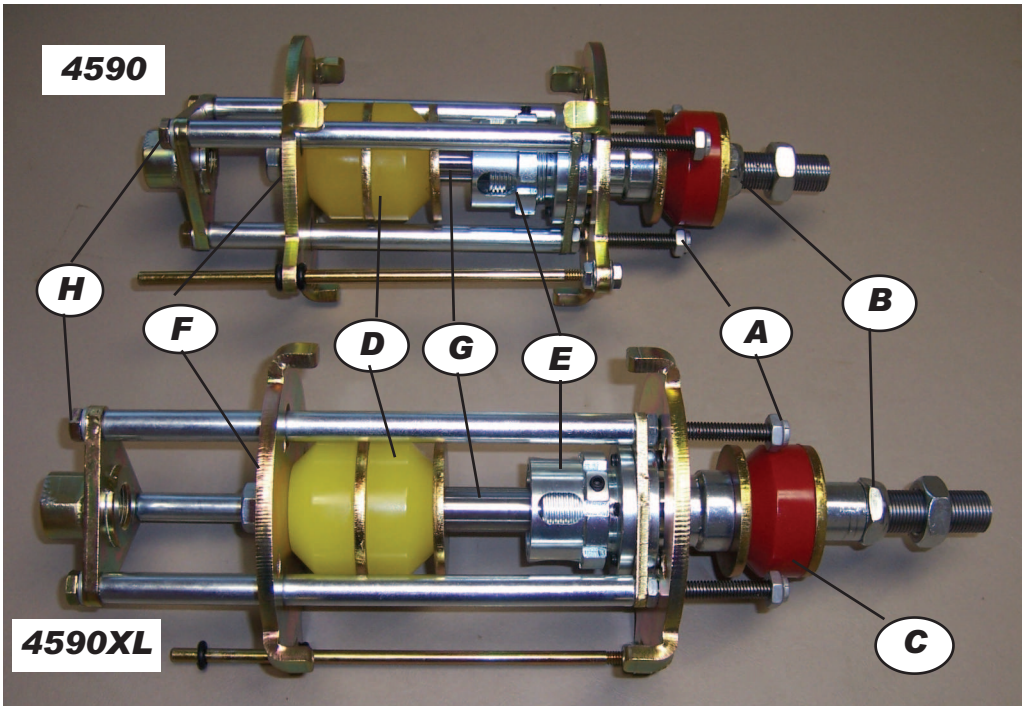

The 4590 and 4590XL Torque Links are very similar. The 4590XL has a longer shaft and stand off tubes which allows more torque link travel. Both torque links use a combination of a wire spring and poly spring bushings to absorb engine torque and increase traction to the rear tires. As engine torque is applied the wire spring will compress and the poly spring bushings will engage. As the spring bushings engage the spring rate will increase. These torque links are very tunable. Understanding the various adjustments which can be made is crucial to torque link performance.

1. Wire Spring Selection - A 5” OD X 6-5/8” or 7” tall spring is needed. These torque links have proven to work with a wide variety of springs from 600# straight rate springs to 1600# progressive springs. A 1050# or 1200# spring has proven to be a good starting point for most racers. When traction conditions are good use a stiffer spring. As a track becomes dry slick soften the spring rate (or adjust the poly spring bushings).
2. Wire Spring Preload - Preload the wire spring by adjusting the three 5/16” locking nuts (A). Preloading the spring 1/8” to 1/4” is a good starting point. Be careful to adjust the nuts evenly. If you run more preload then 1/4” we suggest you reduce preload as the track slicks up. The wire spring can also be preloaded by adjusting the 3/4” nyloc nut (B) on the shaft. Keep in mind, when adjusting preload on the wire spring you are also adjusting preload on the brake bushing (C). If you increase preload on the wire spring you will also increase preload on the brake bushing. This may affect your car on corner entry (brakes) and corner exit (traction).
3. Poly Spring Bushing Selection - The 4590 Series torque links come standard with two yellow 75 durometer poly spring bushings (D). The yellow bushings have proven to work well for a majority of racers, especially racers running open class mods, such as UMP and USMTS cars. IMCA mods, or cars with less spoiler or motor may need softer bushings such as purple (60 durometer) or orange (55 durometer) bushings. A bushing spring rate chart can be found in the tech pages section of our website.
4. Adjustment of Poly Spring Bushing Engagement - The point at which the poly spring bushings engage can be adjusted by turning the internal adjuster nut (E) in or out. To adjust the engagement point push the bushings and washers against the spring plate (F) so there is a gap (G) between the internal adjuster nut and the bushings. For an open class mod a 1/2” to 5/8” gap is a good starting point. For an IMCA mod a 3/4” to 1” gap is a good starting point. Increase the gap if the tires break loose during acceleration or when the track slicks up. Reduce the gap to bring the car out of the corners harder or when traction conditions are good. An 1/8” gap adjustment will affect performance. If you are racing a 4590 (short) torque link and you find you need more gap or wire spring travel before the bushings engage try removing one of the poly spring bushings and washers. One spring bushing has a harder spring rate then two bushings. If you run a single traction bushing you may have to use a softer bushing with less spring rate.
6. Torque Link Maintenance - Maintenance of the torque link is simple. Periodically lube the torque link at the grease zerk. Only a couple of pumps are needed. Check the 1/2” bolt holding the shaft in place. You don’t want the bolt to come loose. Periodically check the torque on the three 5/16” cap screws (H). The screws should be torqued to 29 ft/lb. with a torque wrench. Over tightening the cap screws can stretch and damage the cap screws. The three 5/16” studs are made from special chrome-moly material. If you damage a stud do not replace the stud with threaded rod from the hardware store. The poly spring bushings should be replaced annually or when the bushings loose excessive static height. The normal static height of the bushings is 1” to 1-1/16”.

If you have questions please feel free to call us at 920 788 0356