



SWAY-A-WAY INC.

8031 Remmet Ave.
Canoga Park, CA 91304
Tel (818) 700-9712
info@x-sway.com

Why X-SWAY Torsion bars for GM T1XX Heavy Duty platform 2020 through 2026 Silverado and Sierra 2500HD/3500HD

July 15, 2026

Re-Engineering the Ride: Why X-SWAY Torsion Bars Outperform GM Factory OEM on T1XX Heavy-Duty Trucks

When it comes to leveling or handling heavy front-end loads on the 2020 through 2026 GM T1XX Heavy Duty platform (Silverado and Sierra 2500HD/3500HD), the factory suspension has a built-in limitation. While GM Genuine parts rely on a traditional hexagonal end design, **X-SWAY Torsion Bars**—engineered by the off-road racing legends at **Sway-A-Way**—introduce a revolutionary 47-tooth spline design that completely transforms how these heavy-duty trucks are tuned.

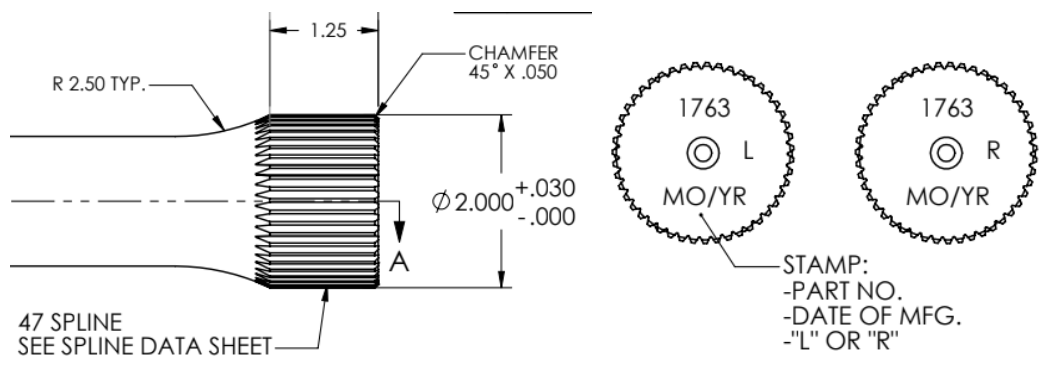
Here is why swapping your factory hex bars for X-SWAY's splined architecture is a game-changer for heavy-duty truck owners and fleet managers alike.

1. 60° Hex Indexing vs. 47-Tooth Spline Precision

The most significant difference lies in how the bar connects to the truck. The factory GM torsion bars feature 6-sided male hex ends. Because a hexagon has only six faces, each rotational adjustment or clocking position indexes at a massive, restrictive **60 degrees**. This lack of granularity often forces truck owners to over-crank or under-crank their torsion keys, compromising ride quality just to achieve the desired ride height.

In contrast, X-SWAY replaces the rigid hex pattern with a precision-machined **47-tooth spline**.

- **The Math:** Dividing a 360-degree circle by 47 teeth yields an incredibly fine indexing capability of roughly **7.6 degrees per tooth**.
- **The Benefit:** This gives you nearly **eight times more precise adjustments** than the factory OEM setup. You can fine-tune your suspension height down to the exact millimeter without maxing out or putting undue stress on your adjustment keys.



2. Perfect Left-to-Right Weight Compensation

Real-world work trucks are rarely perfectly balanced. Whether your truck is equipped with an asymmetrical commercial snowplow, a heavy auxiliary fluid tank on one side, a service body crane, or a massive tool chest layout, the left and right sides of your front axle often carry vastly different weights.

With factory 60-degree hex bars, compensating for an uneven load is incredibly difficult, often resulting in a truck that leans or sags on one side. The 47-tooth spline design from X-SWAY allows you to index the driver-side and passenger-side bars independently at microscopic intervals. This smaller, incremental adjustability ensures a perfectly level ride height and optimized wheel alignment, regardless of how unbalanced your cargo or front attachment is.

3. Why Splines Are Stronger

- **Better Load Distribution:** A hex head transfers all rotational force onto just **6 sharp corners**. A 47-tooth spline spreads that exact same twisting force evenly across **47 contact points**. This drastically reduces localized stress and eliminates the risk of rounding off the edges.

- **Higher Surface Contact Area:** Splined shafts provide much more surface area contact inside the female matching key. More contact area means the connection can handle significantly higher torque loads without stripping or shearing the metal.
- **Elimination of Stress Riser Points:** The sharp 120-degree angles of a standard hex head act as "stress risers," which are natural weak points where microscopic metal cracks typically begin.

Because of this massive strength advantage, high-torque applications—like the drivetrains of 1,000-horsepower trophy trucks and commercial heavy-equipment machinery—benefit greatly using splines instead of hex shapes.

4. Custom Minor Diameters for Extreme Builds

While the factory GM bars are limited to a less than 1.5-inch minor diameter, X-SWAY offers **custom sizing of the bar's minor diameter** for extreme builds. If you are building a heavy commercial fleet vehicle, carrying an oversized V-plow, or putting together a dedicated overlanding rig with heavy armored bumpers and winches, X-SWAY can supply custom-tailored core diameters. This delivers massive extra strength and tailored spring rates that far exceed anything available in the standard OEM catalog.

5. 40 Years of Baja-Proven Pedigree

You aren't just buying a torsion bar; you are buying decades of engineering. X-Sway torsion bars are manufactured by Sway-A-Way, a brand that has been leading the suspension industry for nearly **40 years**.

Their engineering and manufacturing processes are trusted by Baja 1000 winning Trophy Trucks—vehicles that endure brutal high-speed baja desert pounding terrains to multi-million dollar hypercar manufacturers for their specialized engineering needs.

The Verdict

The factory GM hex-head torsion bar is built for the average driver carrying average loads. But if your 2020-2026 GM HD truck demands precision leveling, flawless left-to-right weight balancing, and the strength to handle extreme winter or off-road conditions, upgrading to the 47-tooth splined architecture of **X-SWAY by Sway-A-Way** is the right choice.