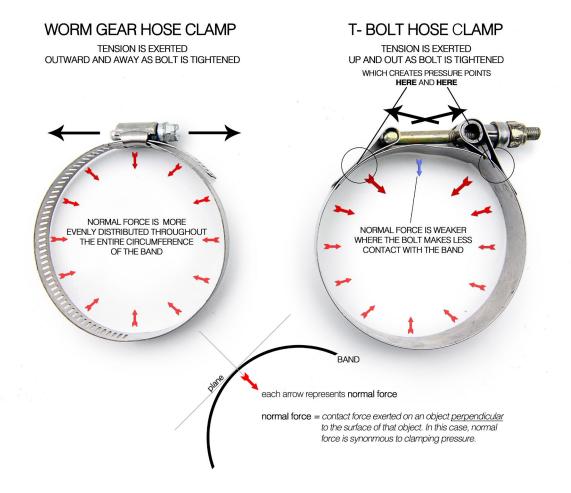


WHY A TRADITIONAL WORM GEAR CLAMP WORKS BETTER THAN A T-BOLT CLAMP FOR FORCED INDUCTION

When it comes to securing silicone couplers to aluminum piping on the pressurized sections of a vehicle's turbo system, there has been quite some controversy on whether a t-bolt clamp works better than a traditional worm gear clamp. Many would like to believe that the t-bolt clamp is a more failsafe method because of its rugged and thicker set design as well as the fact that it costs more than a worm gear clamp of equal size, but this is not the case.

Yes, it is true that a t-bolt clamp provides more clamping force than the worm gear clamp, but the clamping force that it applies is a bit excessive and can oftentimes bend and distort the aluminum piping as more pressure is applied. A t-bolt clamp may work well when securing a silicone section to stronger, thick steel piping, but from our experience, it simply does not provide the correct clamping force when applied to lightweight aluminum piping which we have illustrated in this image below. In essence, the distribution of clamping pressure is just as important as the amount of pressure.



Because the t-bolt does not make uniform contact like the worm gear housing (as illustrated above), it produces a greater amount of clamping pressure in the areas which are circled. It also applies relatively weak clamping pressure in the area where the bolt makes less contact with the band (arrow in blue).

Since the worm gear housing is situated on the band rather than above it, clamping pressure is exerted more evenly, reducing the possibility of crushing the pipe and compromising a secure seal. In any event, a high quality, stainless steel worm gear clamp will provide enough clamping pressure to safely secure silicone tubing without damaging the lightweight aluminum piping used on turbo systems - even on extremely high psi applications.



Rather than paying more for a t-bolt clamp that offers no benefit, anyone installing aftermarket charged piping on their vehicle would be better off focusing on the quality of the materials and craftsmanship of the piping, couplers and worm gear clamps that they plan to install. You can do so by using pipes made of high quality aluminum with bead-rolled ends to ensure a tight seal. Use only high grade couplers with 4-ply construction for additional strength and resistance to fatigue. Finally, only use high grade stainless steel worm gear clamps of the correct size and properly tighten them right behind the bead roll. As with any installation, periodic checks and appropriate maintenance are important. If you follow these steps, you will minimize the chance of a boost leak.