



HELL OF A DAMPER

ATI turns up the heat with Hellcat and GM power boosting damper line

Words Cam Bentley / Photos ATI Racing

When it comes to high performance crankshaft dampers, ATI is the pinnacle of performance. The “go-to” brand for 100 percent of Pro Stock and NASCAR racing engine builders, they know a thing or two about smooth running engines and crankshaft dynamics. For that reason alone, their newest dampers for Mopar and GM vehicles aptly bring that racing success to the street. ATI dampers are SFI-approved for added safety and durability.

The Dodge Challenger and Charger Hellcats have set the mark for high performance: able to twist the dyno to 707 hp, making them the most powerful production cars available today. But as any performance addict will tell you,

huge power is terrific, but you can never have too much of a good thing. Enter ATI.

The opportunity to add a few more horses to the Hellcat’s stable of power became the challenge for ATI’s engineers. They accomplished this goal by offering a new damper that overdrives the factory supercharger by 10 percent, increasing the “boost” by 3psi.

The new damper (PN 918485), when combined per ATI recommendation with use of an aftermarket tuner (HP Tuners offers one currently, but by this writing, Diablo Sport and SCT should have followed suit) generates an additional 80 hp at the tire, and at least 100 rwhp with E-85 fuel. That’s

a boost even Hellcat pilots will feel in a big way.

With this high performance damper, ATI also recommends upgrading the mechanism that keeps the damper from turning on the crankshaft snout. After all, we are talking about huge power here.

The factory uses a washer system to avoid damper slippage on the crankshaft with Hellcat engines. Both the Hellcat and the lower horsepower Mopar VVT engines use a press-on, interference-fit hub to allow the damper to perform its shock reduction and crankshaft management duties. To ensure ATI's Hellcat damper stays in place under the high boost application, they offer a pin kit that replaces the factory Hellcat washer system. In this way, there is no possibility of losing the engine power generated by the ATI overdrive damper.

And just to be safe, ATI also offers a high performance replacement OEM diameter damper (PN 918483) that provides a durable upgrade to the factory damper.

It has a ring to it

Key to the racing success for ATI is the unique and innovative design of their Super Damper. Unlike many others, it is rebuildable. It can be taken apart (ATI recommends maintenance every time you rebuild your engine), inspected for wear, and then freshened for additional service. That alone makes ATI a good choice for racers and power enthusiasts who have signaled this feature as a key benefit.

ATI dampers are modular in construction with a machined "hub" that presses on the crankshaft snout. The "shell assembly" (which bolts to the hub via six countersunk fasteners) features an inertia ring that is critical to the damper's crankshaft shock and deflection control. This inertia ring is sandwiched between an inner and outer shell. On the inertia ring, there are rubber O-rings, which are responsible for the "tuning" functionality of the damper. These O-rings can range from soft to hard as requested by the engine builder.



This cut-away shows the high tech nature of the ATI damper, which is why it is currently the only damper used in NASCAR and Pro Stock competition.

Corvette and CTSV Power Gains

In much the same way the ATI Super Damper has provided a power boost for Hellcat, ATI engineers have addressed the issue of General Motors engine dynamics. They offer a series of dampers for the newest Corvette and CTSV high performance engines and other applications.

Talking specifically about Corvette C7 applications, ATI offers both a wet sump (standard level Corvette) and dry



This LSA engine damper kit includes the center-mounted crankshaft hub, the outer damper mechanism, and a drive pulley. Several different pulleys are offered for LSA engines to change the supercharger boost output.

sump (Grand Sport) damper that provide a significant upgrade from the factory-mounted LT1 engine components.

For the supercharged LT4 engine application found in the C7 Z06 Corvette, ATI offers 5, 10 and 15 percent overdrive pulleys. The 15 percent, 8-groove pulley that fits to the Z06 damper (PN 917315), adds 2.3 psi to the stock application for 50 more horsepower at the tire. The 5 and 10 percent pulleys are designed for higher displacement aftermarket supercharger upgrades where an overdrive pulley less than 15 percent is desired. If a customer is looking to add an ATI damper/pulley to increase durability without increasing boost, the 5 percent pulley is recommended.

For the 2009-15 LSA engine used in the Cadillac CTSV application, ATI comes to the rescue with a performance pulley system that increases the durability of the unit while retaining the supercharger overdrive output. For 2016 Cadillac CTSV LT4 applications, ATI offers similar to Corvette overdrive pulleys, but for those details, ATI recommends calling their tech line for specifics.

ATI has not left the truck guys out of the mix either. Currently they offer up to 10 different pulleys that can provide overdrive for Tahoe and Escalade trucks running aftermarket supercharging, and underdrive for NA (Naturally As-



This is ATI's PN 917315 for Corvette Dry Sump system. The overdrive pulley is shown here.

pirated) trucks looking to slow down the accessories. Their unique ability to fully integrate the damper and pulley "package" to fit these unique applications is what makes them so popular.

From trucks to cars, and from Hellcats to Z06 Corvettes, ATI's newest line of Super Dampers offers diversity and innovation. What it means for the big picture is that while you may think you had the most powerful Hellcat, Corvette, CTSV, or Tahoe when you rolled from the dealership lot, we have some bad news. ATI has changed the game. [PPV](#)

Source: ATI Racing, atiracing.com



For 2014 Corvette LT1 engines with the wet sump system, ATI PN 917314 is suggested.

ATI offers a wide variety of damper/pulley systems for all types of performance engines. This Damper/Pulley, PN 918854, looks simple but provides major high-tech features and tunability for the engine builder or vehicle owner.