Harmonic Balancers

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Atomic High-Mass dampeners are designed to absorb torsional vibrations of the crankshaft/rotating mass of the engine, which increases the life of engine components such as crankshafts, bearings and drive systems. They also allow for quicker engine acceleration, deceleration and contribute to smoother running of the engine.

The term "harmonic balancer" has been adopted by the automotive industry to describe vibration dampeners that attach to the snout of crankshafts; this term is misleading and inaccurate. They do not "balance" any engine harmonics - they merely follow Newtons Third Law of Motion and react to the torsional vibration created by the motion of conrods/pistons acting upon the crankshaft. This oscillation is partially taken up by the movement of the outer ring of the dampener moving in an equal and opposite reaction to this torsional movement. The more efficient the operation of the dampener, the more damaging torsional vibrations are absorbed.

We engaged a vibration analysis company to assist with the design of our balancers, with careful evaluation of the results being applied to the mass of the dampening ring to absorb the maximum torsional vibrations. We also tailored the mass to simultaneously reduce rotating inertia to the lowest possible level.

Why Atomic balancers are better
The construction of a standard type dampener is usually an outer cast iron ring press fitted to a keyed hub, with a rubber sleeve wedged between the two pieces. The unit is then lightly press-fitted to the crankshaft and secured in place with a retaining bolt/washer assembly.

Atomic vibration dampeners differ markedly from the standard style of dampener in the following ways:

- CNC machined outer ring with greater rotating mass than standard; absorbs more damaging torsional vibrations
- CNC machined inner hub for a precision fit
- Billet alloy front retaining plate with laser etched degree incremental.
- Lighter overall balancer mass by an average of 300 grams provides quicker engine acceleration and deceleration
- Available with standard pulley speed or 15% underdrive
- ANDRA and SFI (USA) approved design
- Flanged outer ring to eliminate dampener ring "walk" off the front or rear of the hub
- Precision balanced to zero
- Front face of balancer is machined with a 6 bolt PCD for Atomic #306xxxxxx Gilmer belt drive mandrel
- Exclusive TuffBond elastometric bonding process to join the of inner and outer balancer sections for a perfect fit, concentric operation and improved transmission of torsional vibrations – comes with a lifetime warranty

PLEASE NOTE: It is mandatory to fit an ANRDA approved harmonic balancer if your vehicle runs quicker than 10.99 seconds in the quarter mile. This is due to the high risk of explosion of the OE factory balancer, which is subjected to extreme torsional and centrifugical forces generated by high RPM's.

#306100 - Atomic Hi-Mass Race Balancer
Suit Ford DOHC 6 Cyl – standard pulley speed

#306100-UD - Atomic Hi-Mass Race Balancer
Suit Ford DOHC 6 Cyl – 15% underdrive pulley speed

#306101 - Atomic StreeTuff Balancer
Suit Ford SOHC 6 Cyl – EF-AU models standard pulley speed

#306102 - Atomic StreeTuff balancer
Suit Ford DOHC 6 Cyl – standard pulley speed