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Installation instructions for Hi-Mass Race Harmonic balancers.

Thank you for purchasing an Atomic/Tuffbond Hi-Mass harmonic balancer. It is designed to absorb more of the damaging torsional vibrations found in high performance engines and is precisely machined from high quality materials on CNC equipment. It will provide years of trouble free service if installed correctly and, as the balancer has been factory balanced, it **must not** be drilled for balancing purposes.

PLEASE NOTE: Incorrect fitment of the wrong type of balancer or failure to follow the installation procedures can lead to failure of the balancer and/or engine damage.

Installation Procedure.

Step 1. Ensure you have the correct balancer to suit the type and model of engine by verifying the part number, etched onto the face of the balancer, is correct for your application. If in doubt please contact Atomic before attempting installation.

Step 2. Check the pulley positions are in the same locations as the pulleys on the original balancer. This is particularly important in Nissan 6 cyl RB Series engines, as pulley spacing varies within the engine family. If pulley spacing varies from original, please contact Atomic before attempting installation.

Step 3. Check that the position of TDC markings on the Atomic balancer is the same as the original balancer.

Step 4. Check the snout of the crankshaft is free of burrs, nicks, scratches and also inspect the woodruff key for any imperfections – replace if damaged.

Step 5. Measure the diameter of the crank snout and the inside diameter of the harmonic balancer to ensure the correct interference fit exists. Too little interference will lead to balancer/crank snout damage and too much interference will inhibit the balancer from fitting correctly. Atomic balancers are manufactured to the bottom tolerance size of the original factory balancer sizing, and are designed to be an interference fit, just like the OE balancer. The interference fit range is as follows:

Crank snout diameter	Interference
1.000" to 1.250" -----	.0007" to .0009"
1.250" to 1.375" -----	.0008" to .0011"
1.375" to 1.600" -----	.0009" to .0012"

Due to variations in factory machining tolerances, it may be necessary to hone the inside diameter of the balancer to achieve the above interference fit. This is easily accomplished with a flex-hone until the correct fit is obtained. A 3 or 4 fixed stone hone cannot be used for this operation, nor can vernier calipers be used to accurately measure the inside diameter of the balancer.

Step 6. Place some anti-seize lubricant on the crank snout and press the balancer in place with a harmonic balancer installation tool, ensuring the woodruff key remains in the correct position relative to the keyway. **Do not hit the balancer with a hammer.** When installed, turn the engine over by hand to make sure the balancer does not foul any engine components.

Step 7. Install the balancer retaining bolt, washer and torque to factory specifications. Torque all other bolts to the recommended specifications for the particular fastener used.

Step 8. Refit belts, set tensions to factory specifications and rotate engine by hand – if all OK, start engine to observe belt alignment and to check for pulley runout. If all is OK, rev engine to 4000 RPM to recheck pulley alignment.

Note: Removal of the balancer is the reverse of installation. Remove the balancer retaining bolt/washer, remove 2 or 3 outer bolts, fit a proprietary balancer removing tool (Snap-on Tools are excellent) and pull the balancer off the snout of the crankshaft. **Do not attempt to pry or lever the balancer from the engine.** An Atomic balancer does not require any routine maintenance however in hi revving applications the retaining bolt should be rechecked every 3 months to ensure it has not worked loose.

An Atomic balancer should provide years of trouble free service if the above instructions have been correctly followed. If you have any questions during or after installation, please contact Atomic on (02) 8665 5889 – we are here to help!

The Team at Atomic