

## 698GT-A Short Engines



### Ford 4.0L 6 Cylinder SOHC and DOHC Short Engines

Although we have been building high performance engines since 1978, it wasn't until 2004 that we began development work on the Ford 4.0L DOHC 6 cylinder "Barra" turbocharged engine. We witnessed numerous catastrophic engine failures after consumers had undertaken simple modifications such as free flowing exhausts and cold air intake systems, so it became apparent there was a need for us to engineer some solutions to address the inherent factory weaknesses.

The engines possess an abundance of untapped power with their large (factory fitted) Garrett GT35/40 turbocharger, however because the engine internals are almost directly taken from the original inline 6 cylinder NA (normally-aspirated) engine of the 1960's, they were not designed to handle 21st century boost-assisted power levels.

We initially developed a lightweight yet durable billet conrod to work with the 99.31mm (almost 4") stroke crank and before long our customers were making 450+ RWKW (700+ flywheel HP). Following this various other engine weaknesses came to the fore such as oil pump problems, valvespring tension, excessive torsional moments, crankcase flex, inadequate cylinder head retention, airflow distribution problems at high boost etc and engineered a range of solutions to suit.



We have seen power levels in excess of 1350KW (1800+HP) with our engines and components, such is the scope for power from these big cube 6 cylinder power plants.

We have 3 power levels available; new for 2014 is our StreeTorquer 550 engine, designed for hi-performance street cars; the venerable 698GT-A engine has been upgraded for 2014 with a few new tricky bits and finally for the seriously power crazed, our 998 Series powerplants are just the ticket!



A short motor comprises a race prepped block, heat treated crankshaft, Atomic billet Superleggera conrods with pressurised oil feed to the gudgeon pins, forged pistons with crown cooling, turbo rings, coated competition bearings, windage tray, hi-temperature silicon rear main oil seal, blueprinting, balancing, and precision assembly, ready for the fitment of your head, sump and accessories.

Fitting one of our engines to a non-original application is no problem with our Retrofit Series. No need to use the original Ford computer, harness and gearbox - just hook up your choice of turbo or blower, add your favourite ECU and you will have the baddest 6 powered car around!

And you also have the option of either an engine built to your requirements or we can rebuild your own... the choice is yours!

### MY2014 Atomic 698GT-A Short engine specs

- Ultrasonic tested block in 24 spots per block – thick walls are required (we reject 4 in 10 for being like Cleveland blocks - too thin in spots due to core shift)
- Full crankshaft preparation - magnafluxed, checked for index/stroke, 2 stage Heat treatment (normalise/stress relieve and temper), reground/indexed as required, micropolished journals and chamfered oil holes.
- **Cosworth F1 Series pistons** – 8.5: comp ratio and include coated skirts, anti detonation bands, polished crowns, H/D pins and piston crown cooling - **an Atomic exclusive. Totally silent operation.**
- Cosworth nitro carburised steel turbo rings
- Atomic billet Superleggera conrods **#306200** 698kW – 6.060" C/C, bushed for floating pins, ARP 2000 bolts, cylindrically ground/honed tunnels and **pressure fed gudgeons - an Atomic exclusive**
- ACL Competition bearings with extra oil feeds for little end bushes
- Fully machined block inc torque plate honed cylinders, decked to crank centreline, main saddle alignment checked etc
- Race spec clearances to suit the intended usage
- Atomic Induction hardened crank sprocket
- Precision balanced
- Atomic Billet gear oil pump – complete with EDM cut chrome moly gears, billet end plate (hard anodized), Grade 10 fasteners, high flow bypass circuitry and blueprinted clearances.
- Fit new brass welch plugs
- Spray block grey (or any other colour you prefer)
- Precision blueprinting and assembly of short motor
- Supply detailed specs of completion of engine and run-in procedure sheet
- 12 months conditional warranty

Atomic engines and components are engineered, dynoed, track tested and fully warranted to give you confidence you won't be let down in the heat of competition.

### 698GT-A Series - New Short block assemblies

- #306400 SOHC Ford 6 cyl - EB-EL Ford
- #306401 SOHC Ford 6 cyl - AU Ford
- #306402 DOHC Ford 6 cyl - BA Ford
- #306403 DOHC Ford 6 cyl - BF Ford
- #306404 DOHC Ford 6 cyl - FG Ford
- #306405 DOHC Ford 6 cyl - Retrofit Series

### 698GT-A Series – Rebuilt Short block assemblies

- #306400-RB SOHC Ford 6 cyl - EB-EL Ford
- #306401-RB SOHC Ford 6 cyl - AU Ford
- #306402-RB DOHC Ford 6 cyl - BA Ford
- #306403-RB DOHC Ford 6 cyl - BF Ford
- #306404-RB DOHC Ford 6 cyl - FG Ford
- #306405-RB DOHC Ford 6 cyl - Retrofit Series

