

Alfa Romeo 75

The Turbo Twins

- Turbocharged Alfa 75s are rare. Engineer Nick Humphrey has two, one a road going original the other a fire breathing race car



TURBO TWIN ONE

by Roberto Giordanelli



NICK HAS DONE WELL IN motorsport but don't go thinking it's luck. Golfer Gary Player said, "The harder you work, the luckier you get." Nick built his racing car from the ground up and bought the road car in its pristine original form. Nick will tackle anything

Alfa and is a typical example of the ingenuity that makes 'grass roots' UK motorsport so good, which plays its part in making the UK such a major player in Formula One. This is a twin test of an original Alfa Romeo 75 1.8 Turbo road car and a home-made Alfa 75 2.0 Twin Spark Turbo race car. Both are owned by Nick Humphrey.

The story goes something like this – Alfa Romeo race driver/engineer Nick Humphrey was struggling last year

with a very well prepared lightweight Alfa 75 fitted with a naturally aspirated 2.0 Twin Spark screamer. Well engineered and as technically advanced as this 75 was, on the track it was hard work. What it made up in the corners wasn't enough to keep it at the front on the straights. All that effort in vain? Well, one day someone came to Nick's race prep workshop with a very rare factory produced Alfa 75 1.8 Turbo road car. Nick tried the



turbocharged car on the road, and his thoughts were, "What am I messing about with a naturally-aspirated 2.0 litre for?"

So Nick bolted a turbocharger on to his screamer and here I am testing it. If only life were so simple. It took me a few seconds to write that last sentence. It takes a bit longer to re-engineer an engine to take a turbocharger – especially for race use. Nevertheless all this can be filed under 'development work'. While campaigning this racing 75, Nick is also building his own 'evolution racer' – yet another 75 with a 2.0 turbo motor. The shell is just about finished and it is being

built to the European Trofeo rules. These rules forbid chassis mods, so Nick is building a car around the desired exhaust system. Anyway enough about a car that doesn't exist – back to this track test. Nick was being a bit cagey about the horsepower of his green and white machine but he did admit to its weight – just 960kg, which is pretty light for a 75 as a standard 2.0 car weighs 1,150 kilos. Add a hefty roll cage, fire system, turbo, intercooler, etc, and it is easy to end up with a racer that weighs more than a road car. Nick has managed to add all this kit AND lose 90 kilos.

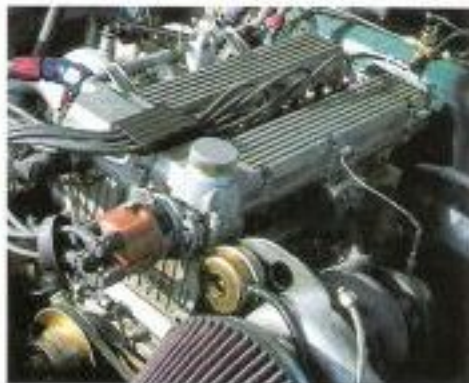
The standard rear de Dion has been modified for camber and toe, with the rear brakes now outboard. At the front there are big AP grooved discs and alloy calipers with Pagid pads. It's all rose jointed with a huge tubular front anti-roll bar – the type with flat ends. The rear bar is driver-adjustable. Intrax dampers adjust for bump and rebound. There is a rear spoiler, front splitter and a special pedal box. Steve Neal specially made the 100+ wheels, which are shod with Dunlop slicks 205/580/16. Inside we have a Sparco Pro 2000 seat, Stack instrumentation system, Lumenition



RIGHT Roberto Giordanelli pressing on in the Alfa 75. Racing number is Nick's traditional identification in the AROC Championship - he used to race a 33



BELOW Turbocharged twin cam has a hybrid Garrett T3 that runs at 2 bar. Power output is undisclosed. Even with the heavy turbo, the car weighs 960kgs, 90kgs lighter than a production 75

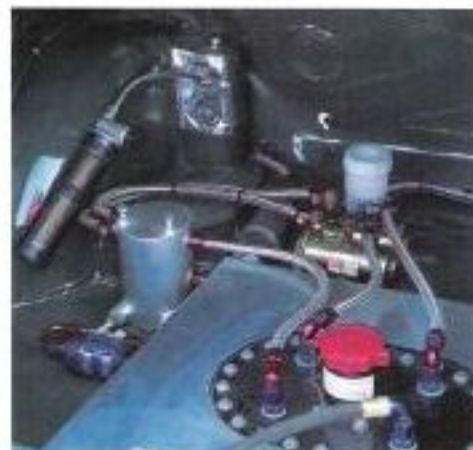


air/fuel ratio meter, boost gauge, temperature sensors, and adjustable brake balance. Re-engineering has taken place on the gearchange, removing the 75's sloppy mess that 'normal' 75 owners have to put up with. Transmission is by IMSA gearbox as per Italian Touring Car. This is a no-synchro 'dog box'. There is also a lightweight flywheel, 5" twin plate clutch and an awful sounding solid mounted prop. The floorpan still bears the scars of where the old standard propshaft came through the floor. Nick has also made up a quick steering rack with just 2.25 turns between locks (although it should be remembered that there is not much lock with the big wheels).

Nick built the 2.0 Twin Spark engine as a 9,000rpm naturally-aspirated screamer. It was built with forged flat top race pistons, knife edge crank, big inlet valves, own design exhaust valves, special seats, guides, lightweight cam buckets and spring retainers. The turbo came later and necessitated a lower compression ratio. This was done by shortening the con-rods and arriving at 6.8:1. The intercooler matrix came from a Formula Palmer-Audi with 'Nick-designed' end tanks. A hybrid Garrett T3 makes 2 bar (30psi) of boost. There is special dump valve and an exhaust temperature sensor.

You sit low in this racer, everything is well thought out and in the right place. Nick has put a lot into this car. The

LEFT Nick's 75 is one of the best prepared club racers we have tested BELOW High standard of preparation is evident in the fuel system layout



standard of work is first class. Rolling out on to the test track the car felt good. The suspension was working because the shell was stiff. With lots of castor set into the front suspension, there is ample feedback and kickback through the quick steering. Boost arrives at about 3,500rpm and although mechanically rated to 9,000rpm, thermal loadings and turbo efficiency would suggest 7,000rpm as plenty. The exhaust temperature gauge climbs to 800° at full load. For a turbo motor there is a very wide power band. I estimate maximum power somewhere between 300bhp and 400bhp. The weight of the

75's rear-mounted transaxle helps traction enormously. Handling is beautifully neutral. Very much a push-it-beyond-the-limit-and-get-it-back kind of car. Nicely set up, huge steady state cornering g was available on our big test circle. An 'easy-racer'.

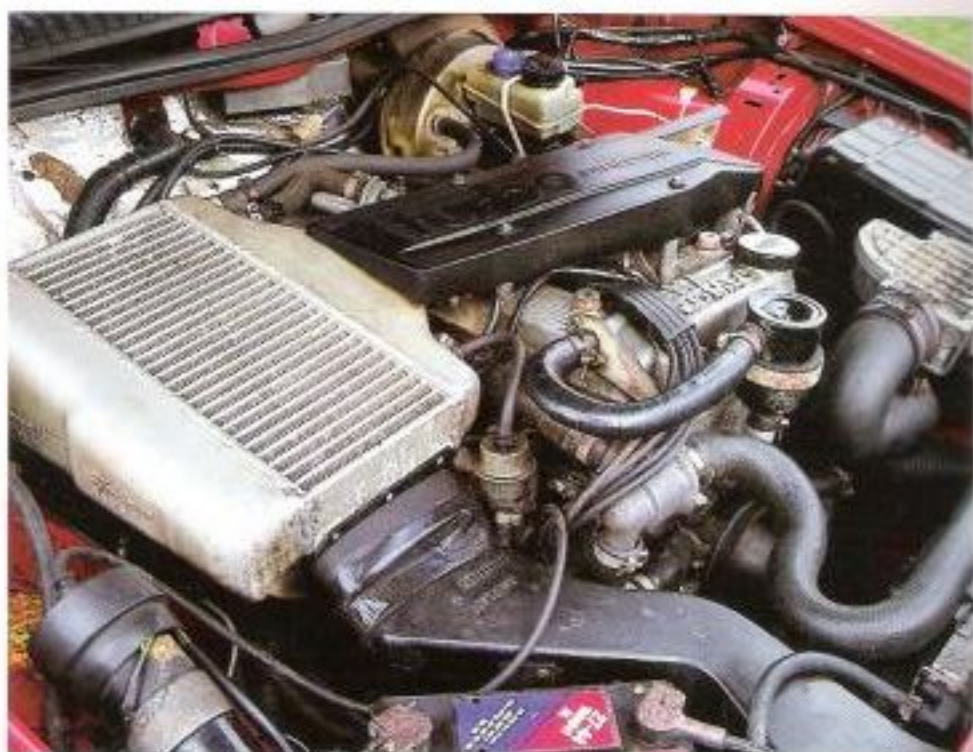
TURBO TWIN TWO

According to Nick Humphrey only two 1.8 Turbo 75s were officially imported by Alfa GB and this is one of them. Information on the subject is as rare as the model (LHD only). There are a few in Italy

and I shall be flying out soon to see what I can learn. Unfortunately, this story will have gone to press before I really know what I'm writing about. There are many pieces missing from the jigsaw that makes up Alfa's history. Like why hasn't there been a story about what really happened at Autodelta. The financial implications of building such low production numbers don't bear thinking about - an example of why Fiat ended up owning Alfa Romeo.

The red 75 Turbo was in Nick Humphrey's yard. I walked right past it and asked Nick, "Where is this 75 Turbo then?" From the outside, only the





bootlid badge gives the game away. Looking tamer than just about any 75 I've seen, the 1.8 Turbo came with no extras in order to qualify for a very low racing homologation weight. Unfortunately, the story is not that simple as many versions were made with varying degrees of modification. The wildest being the one with 'Evoluzione' written down the side of the car in letters one foot high. These had lightweight bodykits, spoilers, big wheels and uprated mechanical bits. The D-reg car in Nick Humphrey's yard is reputed to have had only one owner. Its condition certainly reflects that. Almost a 'time warp' car, it took some time to find any faults on its all-steel body. Only some minor under-the-paint 'spiders' on the screen pillars and a little bonnet-edge rust

could be found – quite outstanding for a car that has spent 15 years in the UK.

The 240km/h speedo shows that this car has covered 205,000kms, yet the standard goody-less interior is still pristine. Wheels are 6.5x14 Speedline alloys with Pirelli P6000 195/60R14 tyres. Spax adjustables are there, and ride height looks standard. Such is the way with 75s that even if they have been considerably lowered, they still look like they need considerable lowering.

Under the bonnet is the familiar old Alfa twin cam but now dominated by an intercooler, unfamiliar plumbing, and a heat shield for the hydraulics. The engine-top intercooler is fed by a fresh air duct and incorporates four inlet manifold tubes. Its position is OK for limited boost

ABOVE Familiar old Alfa twin cam is dominated by an intercooler.

BELOW This car is believed to be one of only two 75 Turbos registered new in the UK – most live in Italy



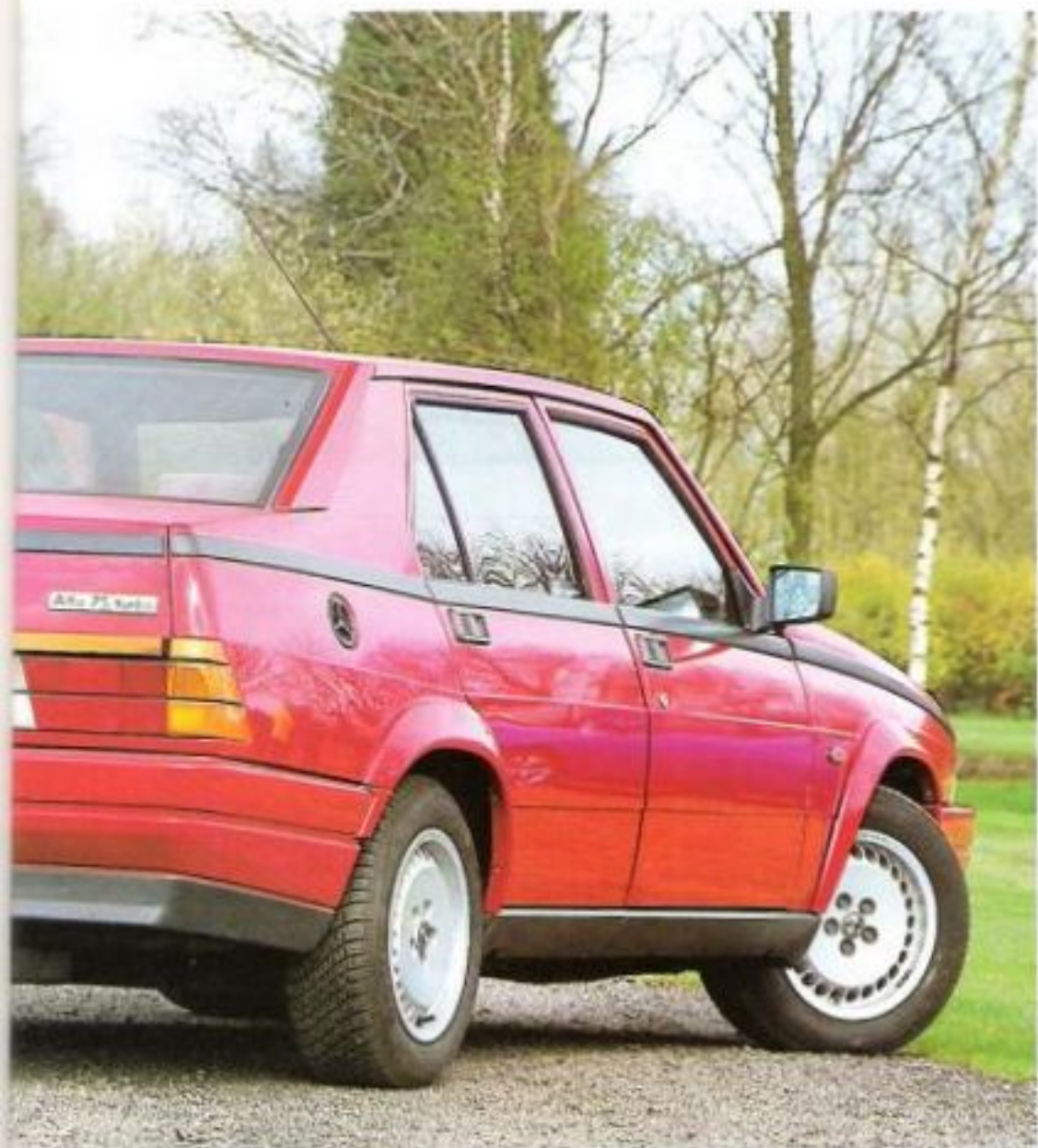
or brief bursts at high boost. Standard boost is 1 bar (155bhp) but this car makes 2 bar (about 180bhp). With high boost, it would benefit from a large front-mounted intercooler. Although the motor is in good condition – smoke-free and rattle-free – if very hard use, high boost, and track days are on the menu then the cylinder liners should be wire-ringed. And if you are really keen, ie you want power AND reliability, then a programmable engine management system is the way to go.

On the road, the 75 is typically turbo – a pussy-cat below boost and a tiger on-boost

On the road, the 75 is typically turbo – a pussy-cat below boost and a tiger on-boost (above 3,500rpm). The tach is orange at 5,800rpm, red at 6,800rpm so you need to keep an eye on the tach if you are in a hurry. Performance is similar to a 3-litre 75, but without all that weight

the 1.8 Turbo can easily be made to out-handle its big brother. I believe that the 1.8 Turbo is supposed to have quick steering. This car has no power assistance and a rather heavy 3.5 turns between locks, but the faster you go the better it becomes. If you are used to modern cars, then the brakes also need uprating. There are plenty of kits about from Red Dot, Tar-Ox, etc.

With maximum torque around 4,000rpm and maximum rpm near 6,500rpm, transmission is high geared and also has an LSD. The 75's sloppy gearchange is not bad on this car although patience is required for 2nd gear synchro whilst in the long warm-up phase - always better to use the brakes to slow a car than the gears. A practical five-seater with a boot big enough for golf clubs, but as Mark Twain said, "Golf is a good walk spoiled." So there it is, MOT tested until November and for sale. If you are interested in this rare piece of the jigsaw of Alfa history, phone Nick at his workshop (Tel: 07771 993032). He is located in Hinckley in the Midlands, near Malfory Park. ■



Introduced in March 1986, the 155bhp 1.8i (1,779cc) Turbo had similar performance to the 2.5i Green Cloverleaf. The car had flared wheel arches and colour coded bumpers. The 1.8i Turbo Evoluzione (1,762cc) was launched in March 1987 and was a limited edition model with a production run of 500 cars. It featured modified engine, suspension, brakes, and wheels. It also had a modified front bumper with an air dam, side skirts and '75 Evoluzione' script across the lower part of the doors. There followed the 1.8i Turbo America (1,779cc) which had velour trim, new spoilers, body coloured side skirts, and high energy absorbing bumpers. All three models were discontinued in 1988. In April 1990 the 1.8i Turbo Green Cloverleaf arrived and replaced the Turbo America. It developed 165bhp, the increase due to a modified intercooler, waste gate, and different spark plugs. Production ended in 1991. An LE version of the 1.8i Turbo Green Cloverleaf was available during 1991 and had the same bodywork and trim levels as the 2.0 Twin Spark LE that was available in the UK.