



It may be cute and cuddly but Fiat's mighty mouse can pack a punch if it has to...

FIAT 500

What do they say about the best things come in small packages? Well, where the Fiat 500 is concerned, then that's a sentiment that's easy to believe. Easy to park, frugal, overflowing with character and great fun to drive the baby Fiat is an absolute blast, although it's hardly fast. The good news is that you can make a mighty mouse out of the 500 for road and competition use, such as sprints and autotests, quite easily. Here's how.

BEFORE YOU START

The tin worm eats this mouse big time. Although 500s rust everywhere, the panels normally worst affected are at the back. The metal at the base of the

rear screen dissolves, as does the engine cover – especially around the air vents. Keep an eye on the floorpans, inner sills and around the battery tray.

Mechanically oil leaks from the rocker cover or sump gaskets are common, but fixing this is cheap and easy. Other maladies include worn valves and guides, which lead to blue smoke from the exhaust on the over-run and blocked/jammed breather flaps. Gearboxes are reasonably durable; if the change is especially nasty it's probably because the linkage is out of adjustment.

The suspension is simple but several problems can occur. At the front the kingpins need to be greased to prevent wear, but even if this has been done, the

metal can still wear as the design is poor and the lubricant is prevented from getting to where it needs to. It can also suffer from a worn single transverse leaf spring but you'll be replacing that anyway. Ditto the rear spring where rust attacks the assembly and mountings. The drum braking system is up to the job, even if lightly tuned and reliable.

HOTTING ONE UP

How you attack this depends what you want from your mighty mouse. If it's FIA/FIVA controlled competition then the regs will dictate what you can do but expect something along the lines of Group 2 Abarth spec. The good news is that original and reproduction parts are

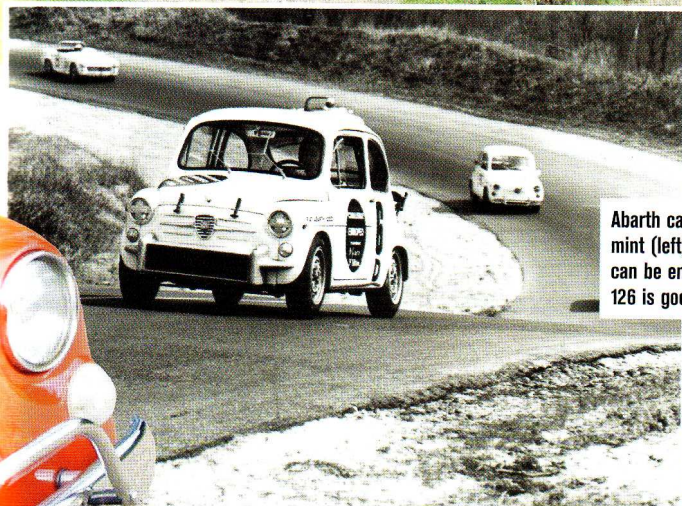
HOTTING YOUR CAR UP

BUDGET

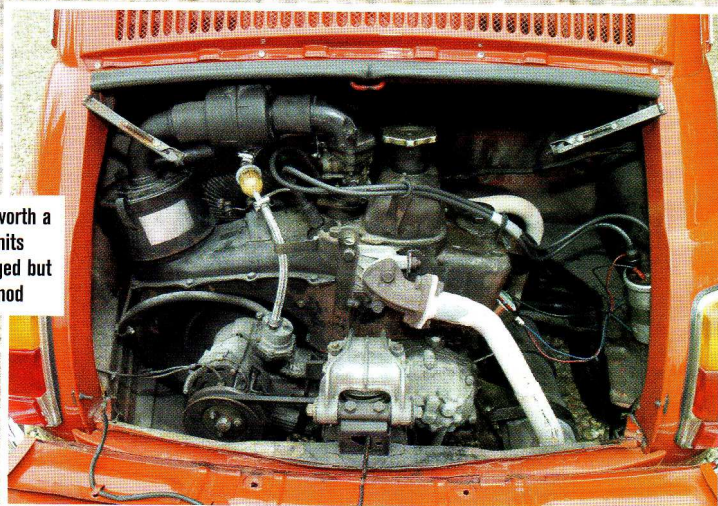
- Electronic ignition
- Sports coil, 40 thou plug gaps
- Sports exhaust system
- Gas-flowed cylinder heads
- Choice of sportier camshafts

FULL THROTTLE

- Fiat 126 engine
- Larger barrels and pistons
- Crank balancing
- Flywheel, con rod mods
- VW Beetle engine



Abarth cars worth a mint (left), units can be enlarged but 126 is good mod



The Mouse that ROARED



Weber DCOE carb is only needed for major engine tuning

available – bad news is that it can be pricey. If however you are not bound by any restrictions then it becomes a lot cheaper and varied. Best of all, there's a wealth of equipment available to suit all needs from Italy – go on the web and type in 'Classic Fiat 500 tuning' and prepare to be amazed!

For those on a budget, it's best to start with getting the basics right (especially tappet clearances) before embarking upon light tweaking where it is recommended that an electronic ignition along with NGK plugs with 40thou gaps fed by a sports coil can provide a surprising bit more pep before fitting a sports exhaust (try Alquati on the web) and gas flowing the cylinder heads, although valve sizes don't need enlarging. There's also sportier camshafts, check out

www.fiat500sport.com. As the engine is only a tiddler, making it more muscular is the best step. The 499cc engine can be swapped for a 594cc or 652cc Fiat 126 unit. That might not sound much of a hike, but they represent a 20 and 30 per cent increase in capacity respectively, and give up to 24bhp – sounds small but it's a sizeable jump in available power.

The larger engine looks the same as the smaller one (it was bored out), so the appearance of the car's engine bay isn't affected. A post-1960 499cc powerplant carries the inscription S62 and cross-hatch markings means that a 594cc engine from the 126 is installed – the 652cc unit from the same car has 650 cast into the cylinder head. Other increases are as follows: ▶



145/70 tyres ample (top) steering okay but can fit 126 rack and pinion set up



Even the interior can be modded along lines of this racer

► 650cc to 700cc gains 2bhp, 650cc to 800cc, 6bhp or to 850cc, 8bhp. That said tuners reckon 700cc is the best for smoothness. The jump to 850cc is achieved by using Volkswagen Beetle barrels and pistons but the engine will run hot so can suffer from overheating.

Upping a standard engine to Abarth 595cc size is easy using larger barrels and pistons, where there's a choice of compression ratios. This results in some 35bhp but anything above this – to say 650cc – means the crank and connecting rods need changing; you can buy lightened con rods at around £200 but apparently Ferrari Dino ones also fit!

The standard unit revs to under 5000rpm but the crank is good for 6000rpm although is known to 'whip' at high revs; fit an Abarth alloy sump at around £90 to reduce this.

A full engine balance reaps decent rewards and lightening the flywheel can improve throttle response but don't over do it – speak to a specialist such as leading light Middle Barton Garage of Oxford first. Rebuilding and enlarging a standard engine can easily cost well over £2000 with the new piston and barrels accounting for half this alone.

HANDLING THE POWER

BUDGET

- Service and bush renewal
- Upgraded dampers and springs
- New drum brakes and linings
- Quality tyres

FULL THROTTLE

- 126 steering conversion
- Disc brake conversion
- Lowered suspension kit/stays
- 145/70x13 tyres

A cheaper and perhaps smarter alternative is to slot in an engine from a later Fiat 126 – in fact it may have already been done! This alone yields 22-24bhp and boasts a stronger block for further tuning of around 40bhp plus can provide up to 740cc. The more adventurous can even install a VW Beetle engine where by stroking the crank and fitting larger barrels can liberate over 2-litres, although such a swap requires VW rear suspension and hubs. Cogbox (0208 942 2580) can help with transmission issues.

HANDLING THE POWER

It's a good idea to fit the 126's gearbox as it's a better all synchro design although beware if you are racing your mouse as it's not as strong as the earlier unit. The 126's final drive is taller and allows for more restful cruising, of sorts! Acceleration suffers and MBG charges some £250 to carry out this swap. Abarth made a five-speeder and while they are available you'll have to pay dearly for to obtain one.

While the braking system was never designed for high speed, it's a decent set up where even standard drum brakes can suffice for up to 35bhp if in good order and fitted with new drums and quality linings. That said, front and rear disc conversions are available from tuners or you can seek out old Fiat 127 items. A stage further is to fit a dedicated disc brake conversion for around £500. You can even upgrade the system to a dual circuit set up (www.fiat500126.com) which is a great safety feature for around £250 and something we'd advise.

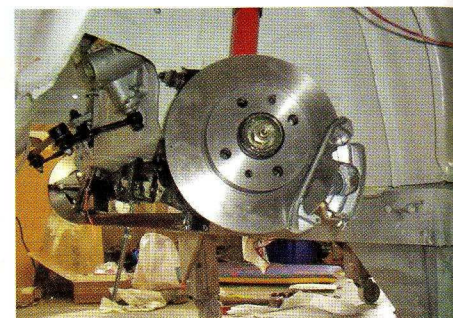
So long as the cluster of rubber bushes are not perished (replaceable reasonably easily) and the king pins are serviceable, the steering (which can be adjusted for wear) is fine but you can adapt the rack and pinion set up from the 126. Occasionally, you'll see 500s wearing bubble wheel arches covering fat tyres but

for most owners the most they will need are 13inch wheels shod with 145/70 tyres.

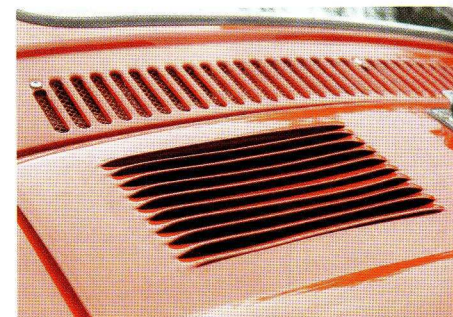
There's no shortage of suspension improvers, which include road and track equipment but uprated dampers (AVO are popular here) in tandem with better springs are the first steps. Logotech from www.fiat500126.com is a complete lowering kit which drops the 500 by 30-40mm lower and is suitable for road and track use.

Middle Barton Garage advises an uprated spring and centre stay for £120, sports rear coil springs plus shorter dampers to suit, all of which it markets.

This is really just a snapshot of what is available for the 500 because there's still a thriving industry for them abroad which rivals our Mini. Roll cages, Abarth engine stays, sports interior equipment, Abarth addenda etc are all available and it's more a case of what you want to make of your frisky little Fiat!



Front disc brake conversion worth having but not essential



Cooling may become an issue if the engines are enlarged