

MAKING FULVIAS GO

FAST

Lancia Fulvia Coupés are great in standard form but as Dale Drinnon discovers with just a few tweaks they can be made into something very special

PHOTOGRAPHS: JOHN COLLEY



IT'S HARD to think of an Italian car that isn't either pretty, fun to drive or just really clever – and quite a lot are all three. A good number are also very quick, even if you include the ones with engines smaller than the average power tool.

Lancia Fulvia Coupés, of course, are among the most Italian of Italian cars but they aren't exactly plentiful. This is good if you don't want to see yourself coming and going, but not if you're looking to find one in the first place.

ENGINE AND GEARBOX

At some point virtually every company has been described as being 'led by engineering', but with Lancia that statement might actually be true. And it's worth a close look under the bonnet of Roger Thomas' standard Fulvia just to drive that point home.

In typical Italian fashion, the Fulvia Coupé's engine started life in the saloon version of the series. It's a narrow-angle V4 with an aluminium head, crankcase and sump and just

enough cast-iron block sandwiched in the middle to accommodate the stroke of the aluminium pistons. The engine was produced in a variety of sizes between 1.2 and 1.6-litres. The vee-angle varies with displacement, but it's only about 12° regardless. All four cylinders can therefore use the same head and still run smoother than an in-line engine. It's a neat trick that Volkswagen has recently rediscovered. There are two overhead camshafts and two double-sidedraft Solexes; installed with a 45° lean to the left, the engine resembles a very short, extremely fat straight-four relaxing on its side.

Drive is to the front through a transaxle with either four or five speeds and a beautiful ribbed alloy case. It's mounted with the (mostly) alloy engine in an alloy cradle. With plenty of alloy to help out the weight distribution and a driveline that sits north/south (as opposed to east/west like a Mini) to give equal half-shaft lengths and reduce torque steer, you end up

with a front-driver that handles more like a rear-driver.

All three of our modified Fulvias engines were balanced as part of a full engine rebuild. The gas flow was also improved during the rebuilding process. Not that it takes much because the overall quality of Lancia castings is excellent. But there's still power to be found by smoothing the junction between inlet manifold and cylinder head and de-shrouding the valves a bit.

The maximum overbore, should you need it, is a fairly generous 0.6mm and unlike many overhead-cam engines a modest skimming of the cylinder head surface is fine.

The proactive, motorsport-minded Lancia engineers also saw fit to provide vernier camshaft pulleys so the valve timing could be precisely adjusted. Don't deck the block, though, or the change in spacing that results

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from shaving off the top of the vee may give you major problems when it doesn't line up with the combustion chambers anymore.

With pump petrol as a consideration (even on the circuit car), the three modified engines are built to a compression ratio of approximately 10.5:1. The carburettors remain standard, although Jonathan's circuit car has a unique cold air box, handmade by Richard Thorne Classic Cars (RTCC) and housing a Pircross filter. On original equipment cams with a fairly conservative rally re-grind, power output is about 110bhp for Matthew and John's cars, while that cold air treatment may give Jonathan's car a tiny touch more power. At these specs, the engines will make usable power to almost 7500rpm and still cope reasonably

well with the tedium of normal public roads.

Likewise, the transaxles are essentially bullet proof and unless you should find one of the rare factory limited-slip differentials, are best used just as they come.

Simon Hall, who has been building competition Lancias at Richard Thorne for the last four years, says he can only remember three gearbox rebuilds in that time. It's hard to argue with engineering like that.

THE BRAKES AND SUSPENSION

If the engine and transmission on Roger's standard Fulvia is impressive, then the running gear gives it a run for its money.

THE LANCIA LINE-UP



THE STANDARD CAR

Roger Thomas from Bristol is the owner of this original 1973 Fulvia Coupé series 3. It has the 1.3-litre engine and has only 37,000km on the clock. Yes, some UK Lancias clocked the distance in kilometres (for the record it's nearly 23,000 miles) and some in miles.



THE TRACK AND RALLY CONTENDER

Matthew Fry, of Headley, Hampshire, bought his 1967 Rallye 1.3 series 1 three years ago for historic rallying but he's actually used it mainly for track days. None of this is any problem for the Fulvia though. It's well up to multi-tasking.



THE LONG DISTANCE RUNNER

This 1967 Rallye 1.3 HF is very rare. Lancia only made about a dozen of these in right-hand drive. This one belongs to John Lloyd from Cirencester. HF stands for high fidelity – an old Lancia club-racers' term indicating something special, in this case lightness.



THE CIRCUIT RACER

As well as 11 World Rally Championships, Lancia has also earned the Formula 1 and World Sports Car titles. This is a 1976 Fulvia 1.3 S built by RTCC and owned by Jonathan Smart from Kent. Last year he took the Class E championship in it. ➡

MODIFIED LANCIAS



The 1973 Series 3 engine has covered just 23,000 miles.



Matthew's 1967 Rallye 1.3 engine delivers about 110bhp.



The 1967 Rallye 1.3 HF engine, made for staying power.



Standard seats in Roger's Series 3 offer plenty of support.



Safety harnesses are part of the extras in the 1967 Rallye 1.3.



The HF has rollover protection with a full safety cage.

Front suspension is independent by double wishbones and a single transverse leaf spring, a design that takes up very little room, places no springing coils where the half-shafts need to go and provides geometry far superior to any variation on the MacPherson strut. At the back there's a beam axle on two leaf springs. This may seem antiquated until you realise that it's absolutely bullet proof, lowers the centre of gravity and provides the one quality every competition driver appreciates, predictability.

Uprating the Fulvia suspension is largely a matter of taking out the compromises that Lancia had to put in for normal passenger use. On the rally cars this includes a change to polyurethane bushes, with offset centres in the lower wishbone bushings to allow additional negative camber on the front wheels and Koni Sport adjustable dampers.

Both rally cars have kept standard factory steel wheels. Steel wheels have an unusual advantage over alloy, especially cast alloy. If you bend one by whacking a big rock you just might be able to hammer it back into shape and keep going. Cast alloy rims, on the other

hand, usually don't bend; they just shatter.

Fortunately, circuit racers don't encounter many hidden boulders or have the time to do much wheel-straightening, so Jonathan has gone up to wider and lighter alloy wheels on his car. They're real magnesium, too, 5 1/2 inches from a Lancia Flavia 2000 HF, with Yokohama A032R's in 185/60x14. Since circuit racers also need less ground clearance, the car has been lowered on re-arched and stiffened springs; otherwise, the only difference from the rally package is a tighter setting on this car's Koni dampers.

As for the braking system, the standard factory set-up consists of discs front and rear with Dunlop double-piston calipers on cars built before 1970. From 1970 onwards Girling four-piston calipers were fitted at the front along with dual-circuit master cylinders. The Girling-equipped cars also had brake servos fitted. Because the Fulvia is such a light car this braking set-up is very effective.

Stainless steel braided hoses are the only way to go on a competition car, however, and all three of ours have been changed over and

converted to Castrol SRF competition brake fluid as well. The pads are Mintex C-tech's, with the circuit racer normally using a harder choice of the three available compounds than either of the rally cars.

One other clever tip on the brakes: RTCC doesn't use steel tubing for the solid brake lines. It uses traditional copper-nickel tubing instead. If there's any major damage to the system it's much easier to seal off the fluid flow to that area by the side of the road by hammering shut a copper line than a steel one.

THE EXTRAS

Being Italian, Fulvia's have lots of fascinating details built in. For example, there's the Lancia's distinctive ignition switch which also graces certain Ferraris. You have to rotate the key and then push it in to start. A neat talking point, as is the inmetric speedo in Roger's car. As with any competition car, the add-ons naturally start with safety gear and Matthew has the usual rollover bar, safety harnesses and electrical system master switch and fire extinguisher. The HF was a homologation





This 1976 Fulvia 1.3S engine has proved a competition winner.



The 1976 Fulvia 1.3S interior is built for competition.

special and John's car is full of weight saving tricks straight from the works team. There are no armrests on the interior door panels, only skinny little plastic pull handles. The seats are thin competition buckets. Other things look normal but aren't: the hinged panels are alloy – and when Lancia makes an aluminium door it isn't just an aluminium skin but a frame as well. HF's undercut a standard coupé by more than 200lbs (91kg) on average – that's before anything is stripped out for competition.

This particular HF also has rollover protection with a full safety cage, a Sparco competition steering wheel and an Elliot 8000rpm rev counter. For long distance events there's a foam-filled aluminium fuel tank, upsized by 20 litres and a Monza quick-fill cap. The finishing touch is the blue and yellow racing stripes on both the rally cars.

One look at the lap timer on Jonathan's dash tells you that the extras on his circuit racer are entirely speed-focused. In this car road use is a secondary priority. The driver's seat is a modern, form-fitting, FIA-approved, non-adjustable Momo and the full roll cage has a

side-intrusion bar to stop anything from reaching it, and that includes the driver. Once you squeeze into the driver's seat though, it's comfortable and the suede-covered Momo steering wheel is just the right size and in just the right place.

One feature consistently stands out in all these cars: visibility. There's plenty of glass – it comes down below the driver's shoulders. A real boost in traffic – or over unknown roads.

THE DRIVING

So, which Lancia Fulvia Coupé would I choose? Roger's car reveals the Fulvia personality straight from the off – no dawdling. Tight parking is something of a strain and though the engine is smooth there isn't a lot of torque low down the rev range. But from the moment you're rolling, the steering lightens up and if you keep it above 2500rpm the engine offers up usable, linear power all the way to redline.

There's no sign of any front-wheel scrabble. The driving position is natural and roomy. Being a later model the five-speed gearbox has the gears arranged in a 'racing' pattern: reverse is up where you'd normally find first and first is down where second should be. It takes some getting used to. Minor grumbling aside, the total package is comfortable, responsive, quick and feels more modern than its age.

Matthew's car is like Roger's after a day at the gym – all the same bits but bigger. You can still tell the standard car is under there and regular daily driving is possible. In some ways, the rally car is easier to drive. Firstly, it's a four-speed gearbox with a conventional shift pattern.

Secondly, the tyre and suspension changes remove a limp-wristedness in the steering.

Things get more intense when we get to John's HF. A ten or 15 per cent weight reduction may not sound significant but it makes a big difference. That meaty section of the torque curve between 3000 and 6000 revs now flashes by in a heartbeat.

But driving Jonathan's circuit racer is something else. Prime the carburetors with the throttle (there's no choke – real race cars don't need it) and the engine catches in a couple of spins. The 'box is a five-speed so following a brief foray into the wrong cog, find first and off you go. This is a race car all right. You can hear the suspension over bumps. The Koni dampers are set on firm and the definition of uneven road now includes bumps bigger than a pound coin. But it doesn't thrash and bottom out and the Yokohamas feel like they'll pull the tarmac up before they'll let go.

The exhaust system must be on the limits of Motor Sports Association rules. The engine feels stronger too and the car bounds out of corners. The brakes are strong and progressive and it's easy get into a rhythm with this car: brake, turn, power... brake, turn, power. Can we just drive it home now?

THANKS TO: Richard Thorne, Neil Cullen and Simon Hall.

STOP

NEED TO KNOW

Richard Thorne Classic Cars, Reading 0118 983 1200
Koni (dampers) www.koni.uk.com
Goodyear www.goodyear.com
Castrol SRF brake fluid www.streetracing.com
Mintex 01274 854000

SPECS	1976 Series 3 1.3S racer	1967 Rallye 1.3	1967 Rallye 1.3 HF	1973 Series 3
ENGINE	1298cc/dohc/V4	1298cc/dohc/V4	1298cc/dohc/V4	1298cc/dohc/V4
POWER, BHP	115@7200	110@7000	110@7000	187@6000
TORQUE, LB/FT	100@4800	96@4750	96@4750	83@4500
GEARBOX	5-speed man	4-speed man	4-speed man	5-speed man
TOP SPEED	115mph	115mph	115mph	104mph
0-60, SEC	9	10	10	12.7
MPG	20	25	25	28
LENGTH	13ft (3.97m)	13ft (3.97m)	13ft (3.97m)	13ft (3.97m)
WIDTH	5ft 2in (1.56m)	5ft 2in (1.56m)	5ft 2in (1.56m)	5ft 2in (1.56m)
WEIGHT	2136lb (969kg)	2035lb (923kg)	1749lb (794kg)	2136lb (969kg)

