

MONDEO ST220

(2002-PRESENT)

The big Mondeo is no slouch, but with the right mods you'll have a motor that defines the phrase 'Fast Road car'.

**GO FROM
220BHP
TO OVER
350BHP**

WHEELS AND TYRES

The variety of wheel and tyre packages available means that you are spoilt for choice. Whether you choose from the huge selection of genuine Ford wheels or from aftermarket suppliers there is bound to be a wheel that suits the style of your 220.

As for tyres the choice is just as open, just make sure you go for something that suits your needs. There's no need to bolt on super-sticky track day tyres if the car is used in all conditions and mostly on the road, instead opt for a good all-rounder like the Yokohama Parada or Goodyear Eagle F1.

The ST220 is probably the most underestimated blue oval. While crowds rave about the new Focus and Fiesta models, the 220 has been sitting in the background doing what it does best – offering an unrivalled combination of luxury, comfort and power.

The 3-litre Duratec pushes out 220bhp and 200lb/ft. The handling would make Maradona jealous, and its styling tweaks are appreciated by true petrolheads, but go

Words: Jamie

unnoticed by Jap-importing boy racers.

That's pretty much been the story for the ST since its release. It was so good in factory trim that most tuners didn't bother developing many performance products for it, and so it's taken a back seat in the modifying world.

However, there are things you can do. The lack of performance parts means building a race-spec track car

is practically impossible, but that's not what the ST220 is about. Make a few choice mods and you'll have a motor that's more than capable of keeping up with the latest Autobahn stormers, while retaining the driveability and comfort the 220 is famed for.



EXTERIOR

Already having distinctive styling tweaks over standard models, the ST220 doesn't really warrant any exterior modifications. There

is definitely no need for garish bodykits and huge spoilers and splitters – they simply don't work on the Mondeo. Subtle mods like tinted

windows, custom grille meshes, and carbon-fibre touches look the business and are in keeping with the car's exclusive and executive styling.

TRANSMISSION



Both the five and six-speed boxes are strong units

At its launch the ST220 was fitted with a five-speed MTX75 'box, but a run of production changes saw the 'facelift' models from mid 2003-onwards equipped with the six-speed Getrag MMT unit.

Both are strong and more than capable. The MTX75 is the same as that found in the Focus RS, which has been proven to

cope with 400bhp. The only thing the FRS has that the Mondeo 'box doesn't is the Quaife ATB. It is well worth fitting one, and costs £600 from Competition Transmission Services.

The MMT 'box is even stronger, and is standard equipment on the mighty Noble M400. Race-spec M400s have been known to exceed 600bhp, and the gear sets of the MMT have stood up to the abuse.

WEAKEST LINK

The MMT benefits from a Quaife ATB (standard on the M400), as the standard open diff is the weakest part. An ATB will set you back around £650, but will put up with anything you throw at it.

The only things that let the MMT 'box down are the cost-cutting, plastic items that Ford threw in. The plastic-tipped selector forks and plastic-caged bearings will be all right on a standard motor, but according to CTS "it is not the best design in the world". A popular mod for the Noble 'boxes is a set of uprated selector forks and some steel-caged bearings, which is worth considering for the Mondeo, especially if the 'box is coming out to have an ATB fitted.

The only other thing that may be worth doing is a shot-peen and super-finish of the gear set. This will reduce the likelihood of stress-induced fractures, and costs around £350 for the MTX75 and £400 for the MMT set.

Subtle styling makes for the thinking man's motorway smasher



ENGINE SWAPS

The 220's 3-litre V6 is a strong and capable motor, but the lack of performance parts available can be frustrating for those who want a car which is as comfortable as the Mondeo, but has the tuning potential of something like the new Focus ST.

The answer is simple: drop a Focus ST motor into the Mondeo.

Although no one has carried out the conversion as yet, the consensus amongst tuners is that the five-pot blown lump will fit under the Mondeo's bonnet without too much fuss. Ford has seen the benefits of this engine and chassis combination, and the new Mondeo Titanium X features the 2.5-litre Focus ST engine from the factory.

A blown four-pot engine conversion is the next logical step. The ideal donor is the turbocharged Zetec as found in the Focus RS, which once again shouldn't be too much of a problem to fit and has the tuning potential for 400bhp. Sticking with the four-pots you could opt for a custom-built Zetec turbo. More and more tuners are offering turbo conversions for the Zetec with increasingly impressive results, and dropping one in the Mondeo's engine bay should be fairly straightforward.



FORCED INDUCTION

It's not something we've got to grips with in the UK, but the Americans have been bolting turbos and superchargers onto the Duratec V6 for years.

3L Duratec Performance offers a supercharger kit for £1600, you have to add shipping costs but it's still cheap for the power gains. The kit includes Vortech V9 supercharger, modified Vortech pulley (standard item has clearance issues), and oil feeds, belts and piping. The kit is designed to fit the 2.5-litre V6,

but 3L Duratec Performance's Chris Gapinski has fitted it to his Cougar, which runs the same 3-litre engine as the ST220. Clearance is tight, and it will take some fiddling to fit, for example the battery will need relocating in the boot, the sump will need tapping to accept the oil feed pipe, and the inner wings will need to have a couple of holes cut into them to allow the pipework to route correctly. The header tank will need relocating, but a custom alloy item is included in the kit.

The standard supercharger kit will increase power to around 300bhp, but once the forced induction set-up is installed there is scope to increase that. Replace the factory pulley set with a smaller 'charger pulley and larger drive pulley to increase boost to 11psi from the standard 7psi. Parts are available from 3L Duratec Performance for £150 plus shipping to the UK.

Running 11psi of boost will see 350bhp, but for 300-plus bhp you'll need to replace the

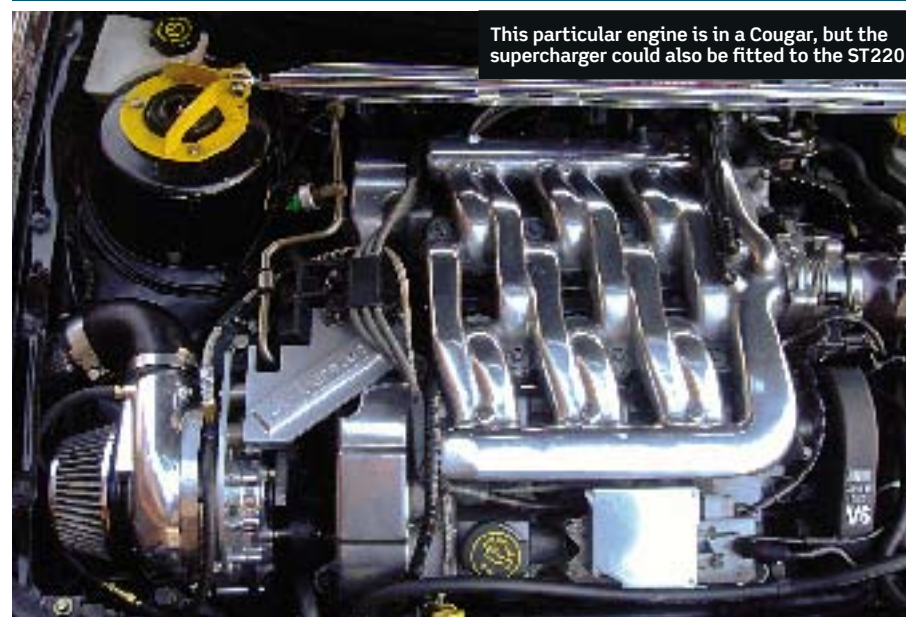
fuel pump and MAF sensor. Performance fuel pumps are easily available, but to get over the MAF sensor problem, Chris Gapinski reckons the F150 Lightning pick-up 80 or 90mm items are perfect for the job. Chris also claims that the stock bottom end is good enough for 400bhp, so a set of larger 42lb injectors may be on your wish list too.

The other way of force-feeding your ST is to fit a turbo kit. We know from the Noble M400 that a twin-turbo set-up is capable

of over 400bhp, but because the ST's engine is transversely mounted there isn't enough room for two turbos. There is barely enough room for one, but US tuners Nautilus Performance offers a couple of single turbo kits. The cheapest costs £1100 plus shipping, but runs a lowly 3.5psi of boost, has no intercooler, and will give 270-280bhp.

The kit to have, however, features a T35 turbo with .63 housing. You should see about 350bhp with this kit, but like the supercharger kits will require some fiddling to fit. The kit costs £1700 plus shipping to the UK.

ENGINE



This particular engine is in a Cougar, but the supercharger could also be fitted to the ST220

With 220bhp, over 200lb/ft of torque, and an uncanny willingness to rev, many tuners actually consider it to be spot-on from the factory.

For this reason, there aren't many performance products available, so if you are insistent on big power (the 3-litre V6 can do it – check out the 400bhp in the back of a Noble M400) you will be looking at the forced induction route and a host of custom goodies to make it work.

MAP READING

There are a couple of things you can do to release a few extra bhp. The first is a re-map. The most common method of remapping is to use an OBD programmer such as the DreamScience Stratagem and the Superchips Bluefin units. Both utilise the ST's OBD port to re-flash the ECU's settings with a revised and improved map.

Although both the Bluefin and Stratagem work in the same way, there are a couple of differences between them. The first is the price, the Bluefin costs £300 and the Stratagem costs £450. However, the Bluefin only has one revised map, which the user simply uploads onto the ECU, whereas the Stratagem has five modified maps to choose from. They include: one for economy, one for running on standard 95RON fuel, one for running on 95RON fuel with an induction kit, one for running on 97RON fuel, and one for running 97RON fuel with an induction kit.

The Stratagem unit also allows DreamScience dealers such as Engine Advantages and Performance 3000 to write a

bespoke map on designated DreamScience software, and then upload it using the Stratagem unit. Superchips offers a similar service, but the car will need to go back to its HQ in Buckingham to be done.

Choosing between the two is difficult, and it depends on what you plan to do with your car. If you are simply planning a remap, exhaust and air filter upgrade the Bluefin may well be the better option as it is considerably cheaper and works perfectly well at this level. However, if you are after mega power and want a custom map to make the most of all the modifications you have made then a Stratagem will probably be a wiser investment.

“A decent cat-back exhaust system will set you back around £500.”

BREATHE EASIER

A simple remap with no other modifications won't make a huge difference in the power output. A typical gain would be around 10-15bhp and about 8-10lb/ft, but this is because the standard map is actually very good. To make the most of the remapping session you will need to get the engine breathing better, meaning uprated exhausts and air filters.

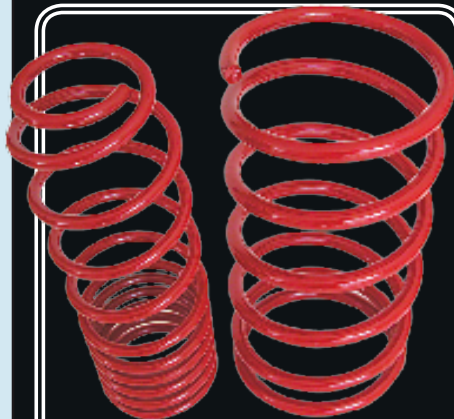
A decent cat-back exhaust system will set you back around £500 and will help free up a few more bhp. A decent set of headers from the likes of MSDS over in the US will see you with another 15-20bhp, and cost around £400 for a

set of two headers and Y-pipe. You will need to factor in the shipping costs from the US on top. These headers remove the standard catalytic converters, so to be road legal you'll need to get a sports cat fitted. A universal 200-cell weld-in sports cat will cost around £250-300, and another £70-100 for someone to fit it.

An uprated air filter costs between £50 and £100, depending on whether you opt for a panel filter or complete induction kit, and is a must for making the most of a remap. An induction kit will have the ability to make slightly more power than a panel filter, but you need

to make sure it is receiving enough cold air, because the ST220's engine bay is very cramped and it has been known for induction kits to actually lose power due to sucking in wads of hot air.

With a decent exhaust system and air filter fitted you can expect to see around the 250bhp mark. Pumaspeed offers the complete package for £1025, and you can have it fitted for an extra £100. A set of MSDS headers will take the power up to around 270bhp, but the costs involved for gaining just 20bhp means most people tend not to bother.



SUSPENSION

The compromise between high-speed stability, cornering grip and ride comfort is almost perfect. If the car is a daily-driver there isn't really any need to change things, as stiffer, lower suspension will put more strain on other components.

If you do like to push your car that bit harder, there are a couple of upgrades available. A set of lowering springs is the first step, and will not only improve the stance of the car but lower the centre of gravity too. PI offers both -30mm and -50mm kits, both costing £120.

For something with a bit more control, KW offers its Variant 1 coilover kits for £900, which will vastly improve the ST220's handling. Just remember that stiffer, harder suspension will take away some of the Mondeo's accredited ride comfort.

BRAKES

The standard braking system features 300mm vented discs at the front and 280mm discs at the rear, which offers respectable stopping power. The front callipers are single-pot items but the pistons are a huge 57mm in diameter, making them a popular upgrade for smaller cars, and bring the Mondeo to a halt from 62mph in just 37m.

However, because the Mondeo is quite heavy, the brakes will benefit from decent pads, good quality fluid and braided hoses. A set of Fast Road pads will set you back around £60 for the fronts and about £40-45 for the rears. A set of Goodridge hoses will

cost around £50, and some good quality DOT 5.1 fluid will cost less than £10.

If you're harsh on the brakes, and find they occasionally fade due to heat build-up, a set of drilled and grooved standard-size discs will cost £150 at the front and £140 for the rears.

If you are adamant you need more stopping power though, there is a big-brake kit available from AP Racing. Its 330mm disc and four-pot calliper kit will provide more than enough breaking force for a road car, and will fit under the stock 18in rims with no bother. The kit is available from Burton Power for £1650, with a discount available if you buy online.



INTERIOR

The ST220 is very well equipped as standard, so there's no real need to start playing with the interior just for the sake of it. Popular mods include fitting some sports pedals, gearknob, handbrake lever, and steering wheel to brighten up the inside and take away the factory look. There are a host of companies that can provide you with these goodies.

Try fitting a pair of bucket seats to really stand out. Fixed back, fibreglass, competition seats won't look right with the rest of the Mondy's interior, but some reclining leather or Alcantara jobbies like Cobra Sidewinders will look right at home while offering comfort and support at the same time. They are quite expensive though; you'll pay about £1400 for a pair.



SPECIALISTS

3L Duratec Performance
sales@3lduratec.com
www.3lduratec.com

Burton Power
020 8518 9136
www.burton-power.co.uk

Competition Transmission Services
01582 840008
www.gearboxman.com

DreamScience
01482 224433
www.dreamscience.eu

KW Suspension
0161 3551275
www.kw-suspension.co.uk

MSDS
info@msdsinc.com
www.msdsinc.com

Nautilus Performance
sales@nautilusperformance.com
www.nautilusperformance.com

Pumaspeed
01924 360260
www.pumaspeed.co.uk

Superchips
01280 816781
www.superchips.co.uk

TYPICAL PRICES

DreamScience
Stratagem£450
Cat-back exhaust
.....£500
K&N 57i kit£100
Supercharger
kit£1600
(plus shipping to UK)
Turbo kit£1700
(plus shipping to UK)
Quaife ATB.....£600-650
AP Racing 330mm
discs and four-pot kit
.....£1650
Goodridge braided
brake hoses.....£50
(All prices include VAT)

CLUB

Ford Mondeo OC
www.fordmondeo
ownersclub.co.uk

ST Owners' Club
www.stowners
club.com

**NEXT
MONTH
FIESTA XR2**