



CRATE BALLS OF FIRE!

REMEMBER XMAS MORNING AS A KID? RE-CREATE IT BY UNWRAPPING A THUMPING GREAT ENGINE FOR THE BIGGEST, BEST-VALUE HORSEPOWER GAIN YOU'LL EVER MAKE, SAYS NIGEL BOOTHMAN

→ Great news – there's a recession coming. Ours shouldn't be too bad, if it happens at all, but in America they've been having a bit of a slowdown for a while now. One feature of this is the almighty dollar taking a nose dive against the good old pound. Bad if you're selling things to Americans, but terrific if you're buying things from them. Take engines, for instance: you can now get a complete new 300bhp V8 at a list price down near Will and Kev's annual shampoo bill.

Sure, there's shipping and duty to be paid, plus the leap of faith you make in buying any high-

value item from someone thousands of miles away, but even that can be dodged by using a UK agent. But why buy an American crate engine in the first place?

Second-hand engines are easily available here, but they're just that: second-hand. That means often unknown levels of wear and abuse, and certainly some doubt about true power output. Add on the hassle of removing them from the donor vehicle, cleaning, stripping, inspecting and (even if all is well) rebuilding them, and you have weeks of work. If it turns out to be kipper, add considerable expense to that

equation. Additionally, useful and desirable engines like Chevy or Ford small-block V8s aren't that common or cheap in the first place on British Ebay, and proper monsters such as Chrysler Hemis are like hens' tits.

There's more. New crate engines are generally either factory products, straight off the line, or custom-built using a varying amount of factory items and some trick aftermarket bits, so when you order the latter kind you can specify as much to your own requirements as you like, and the engine builder will usually be able to advise on the choice of bellhousings, clutches and gearboxes





that are available and ready to bolt on. The same goes for ancillaries and inlet and exhaust equipment – he'll know the most cost-effective way to spend your money.

It's not like having a custom engine built here, where a blank cheque often seems to be the starting point. And if you really want to save money, many of the more basic (but still meaty) V8s aren't custom-built at all – they come down the regular factory production line, so costs are a fraction of UK custom engines. Even the US custom builders work with cheaper parts and lower labour rates than the UK. This is all thanks to the colossal retro/rod/rebuild market in the US, plus the recent surge in muscle car values. Just about every permutation of Ford, GM or Chrysler V8 ever made is available from somewhere, plus the odd V6 and even some of the more familiar four-pots we're used to here: Ford Pintos, Kents, Duratecs and GM Ecotec and XE twin-cams. Naturally enough, there are custom-builders doing performance engines to order for Japanese vehicles too, and these are also cheaper than the UK equivalent.

Oh, and there's one more goldmine you might not even be aware of. Away from the factory-fresh or custom-built crate engines, another industry exists side-by-side, rebuilding dead engines for just about anything with wheels ever sold in the USA. The block, heads, crank, cam and con-rods are generally re-used, but the whole thing is properly re-manufactured, crack-tested and spun for oil pressure and compression before shipping, and usually comes with a 12-month unlimited mileage warranty. What's available? At just one website, rebuiltcrateengines.com, we found every American make you've heard of plus Honda, Mitsubishi, Mazda, Nissan, Suzuki, Toyota and Volvo.

Shipping vs buying here.....

Okay, so we've got entirely carried away with how great it must be to live in Wyoming and buy engines all day, but what about getting them over here? The good news is that most of these firms are well used to shipping overseas. The bad news is the cost of posting a 250kg engine, and the happiness taxes imposed by Messrs Brown, Darling and HM Customs. Let's take a typical example.

You've agreed to buy a 350hp small-block Ford from





CRATE ENGINES



'THAT'S £350 FOR A CHEVY V8. FEEL SOMETHING MOVING IN YOUR TROUSERS?'

the guys at fordcobraengines.com, crammed with tasty performance items and costing \$4195. Shipping can be either by sea or by air, and this is a big decision. Air is easy, quick, safe and expensive – \$800 to \$1300, and surface shipping is slow, more risky and not a whole lot cheaper, perhaps \$500 to \$600. When your engine gets to the UK port or airport, you'll have to pay duty and VAT before you're allowed to take it away.

Add freight to the purchase price: \$4195 plus \$1000 (for the sake of argument) equals \$5195. Add 4.2% duty to this, and you get \$5413. Now the killer – you have to add 17.5% VAT on to that, which makes \$6360.49. So in sterling, your engine has gone from a purchase price of £2142 to an in-your-hands price of £3254.

It might seem a bit disappointing, but if you opt for surface shipping, that figure comes down to under £3000, which is a worthwhile saving – assuming you can handle the extra month's wait. And remember the cheaper the engine you start with, the less the duty and VAT. Be sure to get the builder to include an invoice with parts and labour broken down, as you only have to pay duty on parts, so our sums above should actually come out marginally cheaper. But to piss on that plate of chips, it's worth putting £80-£100 aside for the shipping company to do the forms and organise payment of duty and taxes – the paperwork is fiendish, though you are allowed to do it yourself.

If you're very clever (or lucky) you might be able to slash shipping costs by getting someone to bung your engine in their container with a load of other bits, or even in the back of an imported truck, car or van. Try posting on message-boards and forums to find someone who'd help.

What if you don't want the hassle and risk of importing your own engine? Simply contact someone in the UK who sells crate engines with the hassle taken out. These engines may be built up here from parts, or imported as finished units from the States, depending on where you shop. At fordperformancesolutions.co.uk they have crate engines ready to go plus any build service you might want, and the same at britishamericanengines.co.uk.

Prices are fairly competitive with DIY imports, but these guys have to make a living so don't expect total parity. As an example, an almost 'turnkey' (no carb included) small-

block Ford stroked to 347cu in and making 390-400bhp costs £6286 at British American and £5619 at Ford Performance, though the detailed spec will vary slightly. Buying and importing a similar 415bhp unit with an Edelbrock carb from fordcobraengines.com will cost around £5165 using surface mail, more by air. Alternatively, some US engine builders now have UK reps, like Mark Smith who acts for the Engine Factory (enginefactoryuk@aol.com).

'You decide what you want, pay the price it is in the US plus \$800 for shipping, at the exchange rate on the day. We'll fly it to the nearest airport and you pay duty and VAT in sterling before picking it up. Or for an extra £50 to £80 our shippers, UPS-SCS, can drop it at your door.'

Amazingly, factory engines are being actively (if quietly) marketed by the manufacturer to the general public in this country too. At gmV8engines.com you can buy the Corvette's 6-litre LS2 fuel-injected, 400bhp V8 for £3800 +VAT, or if you really want to boil the tarmac, fork out £8700 + VAT on the 7-litre LS7 version with 505bhp to play with. They're both in stock in the UK.

Even in the bargain basement region there's not masses of difference – £1300 all-in for a DIY import of an iron 350 bhp Chevy small-block in long-engine form (heads and valvetrain on, but no intake, distributor or water pump) plays £1880 from British American Engines. But the super-cheap rebuilds

How cheap?

Even adding the 'core charge' you have to pay if you haven't got a knackered engine to exchange (usually \$175-\$500), the prices for these rebuilt engines will make you faint: \$1899 (£970) for a Mitsubishi 4G63 DOHC Turbo, as found in the Lancer. Or \$1649 (£842) for a Datsun 240Z six-pot. Even a Volvo T5 can be had for \$2699 (£1378).

At crateenginedepot.com we found a 205bhp GM Ecotec with an Eaton supercharger, all the ancillaries AND a gearbox for \$4873 (£2488). Back at rebuiltcrateengines.com we found the cheapest crate V8 anywhere – \$699 for a Chevy 350cu in. That's £350 for a rebuilt 5.7-litre V8, plus £125 for the core charge. Feel something moving in your trousers?

If you want a completely brand-new factory engine (and at these prices, why not?), it's easier to find Detroit iron than foreign makes, but it's just as tempting. As an example, Crateenginedepot.com offers a 350 Chevy with iron block and heads, rated at 330bhp (using a 600cfm carb, not included) at \$2659.00. That's £1357.81 at today's rate.

Fancy something a bit more serious? Move away from the factory engines to the custom builders and the price hops up a bit, but how about a 351 cu in Ford Windsor small-block making 400bhp, thanks to Edelbrock RPM aluminium heads and a string of other trick bits for £2397? See fordcobraengines.com. When you're ready for the big leagues, £4900 spent at proformanceunlimited.com gets you a 454 cu in big-block Chevy making 500bhp and 515lb ft, and unlike the previous two that's a 'turnkey' engine – MSD ignition, Edelbrock carb, water pump etc. And all for less than you'd pay someone here to freshen your Jag XK engine, or less than a Rover V8 built to performance spec – only about 4.6 litres and 280bhp.





of used US and foreign motors really can't be replicated here.

1: Chrysler Hemi: the godfather of V8 grunt.

Pick your own V8.....

So now you know what's available, and what it'll cost you to get it home, which one do you choose? Is it really a good idea using rebuilt, re-used parts if you've got serious performance in mind? This is where a bit of expert advice comes in useful. Randy Bouchillon has masses of experience building fire-breathing Mopar lumps like the famous big-block Hemi family (all available through bouchillonperformance.com) but his advice is applicable to just about anything.

'A large concern I have with rebuilt or remanufactured components is duty cycle

'HOW ABOUT A 205BHP GM ECOTEC, WITH A BLOWER AND A GEARBOX FOR JUST £2488?'

fatigue. Some of these components people are trying to re-use are 30-50 years old, some with a lot of very hard years of abuse, and all components have a hidden duty cycle life span. Due to age, vibrations, harmonics, and general fatigue, all components will eventually fail. But it's also been found that if you were to test these items a short time before the duty cycle fatigue point, the component would still test as being satisfactory. Somewhat like a light bulb, before and after it fails.'

This sounds a little alarming, but American V8s are by nature understressed and tough – turbocharged foreign four-pots, perhaps less so. As usual, a little common sense is required. If you want a drag engine on the cheap, don't put up with re-used anything except the block and bare heads, with valve seats and guides replaced. If you want a powerful, torquey engine for street use, especially in a lighter European car, you'll probably be fine with a repu-

table rebuilt unit. A final word of warning on this from Randy:

'Good quality replacement components are very reasonably priced now and it only takes one of these extremely abused old components to destroy an engine that you saved 30-40% on.'

Most places have a pretty bewildering choice to offer you, but assuming you know roughly what you want (either a specific Jap/European engine, or if it's a V8, Ford, Chevy or Mopar, big block or small) there are few things to bear in mind. Rebuilt turbocharged engines should have a new or guaranteed reconditioned turbo – check to make sure. Remember the bhp figures are quoted at the flywheel, or in fact, the flexplate – if you need a flywheel for a manual gearbox application, you'll probably have to specify this. Aluminium heads on a V8 might seem an expensive luxury when 350bhp is cheap and easy with iron heads, but they'll save a lot of weight and could

I did it - so can you

Richard Booker got sick of taking his TVR Tuscan back for a new engine every few weeks and opted for a 650bhp V8 crate motor that cost less than rebuilding the old straight-six. Well, who wouldn't? An engineer by trade, he researched his choice of crate engine pretty thoroughly:

'I rang round various companies until I settled on Proformance Unlimited. They answered all my questions over several phone calls before I'd spent anything,

and they were happy to put me in touch with the component suppliers so I could ask them questions too.

'I used an independent shipper, which was probably a mistake in the end – I should have stuck with the one Proformance use. But the engine was dropped off as promised in its box on the pavement outside the house. So we lifted it out, put it on a dolly and wheeled it to the garage, lowered it into the engine bay, hooked it all up

and turned the key and wham! It just fired instantly. It really was that easy.'

Richard says the engine is a complete animal: 'It revs like a bike engine, and I've set the limiter at 7500. It'll pull a lot more quite safely.'

It's made the car even more ludicrously fast than it was before. 'Quite frightening, actually,' says Richard. 'About 110 in second and 160 in third...' and all for not much over five grand.

2: Tuscan's AJP six-pot kept going bang so owner Richard decided to nail...

3: ...in a 650bhp Chevy V8 instead. It cost him less than getting the TVR engine rebuilt.



2



3

be the difference between under-steer and good balance. Learn as much about your favoured engine as possible, and ring a few of the likely vendors in the US.

One of the biggest decisions is whether you need a 'turnkey' engine or whether you can work up from a long block, or even a short block. But if you've got to find inlet manifold and injection or carbs, plus exhaust manifolds, dizzy, water pump, engine mounts, harmonic balancer, flywheel and lots of other stuff you might not get with a 'long' engine, why not just build it yourself and save yet more money? According to Ryan Masters from gmv8engines.com, you just wouldn't save that much:

'Nine out of ten times it's cheaper to buy the engine in one, and what's more you haven't got the hassle of finding the parts.' There's one more thing to think about, and that's getting the funds across to the US. Randy again:

'Most suppliers in the US do not

want to accept credit cards from outside of the US and Canada, because credit card payments to us from overseas are not guaranteed. We have to adhere to our Bank Wire Transfer of Funds requirement – this just means it needs arranging through the bank, but there's a fee – currently \$65.00'

In the end, though, it will probably be the shipping costs that make the difference between an absolute bargain and a reasonably-priced experiment. Steve at proformanceunlimited.com doesn't like risking surface transport: 'There's too long a wait before it's in the customer's hands, and I don't trust the safety of 40 days on board a ship.'

Randy Bouchillon points out that arranging the packing and shipping of an engine destined for overseas takes a lot longer than their usual US destinations, so you could save yourself a bit of time or money by sorting out the collection and shipping yourself. Joe Sherman of

joeshermanracing.com use a specialist crate maker for maximum protection, which adds \$200 to the bill, but once wrapped, a familiar name like Parcelforce Worldwide (parcelforce.com) might be able to do a door-to-door service for you inside 3 days, if you can afford the £740 generated by an online quote.

Matt Walsh of enginefactory.com gets to the core of the issue by pointing out the difference between the \$800 they charge to fly engines over here, and the \$600 it would cost to go by boat. 'Is the £100 saving worth a month's wait, a greater risk of damage and a van hire to and from the port of entry?' Probably not.

So that's it. A combination of a weak dollar, a huge aftermarket and millions of car-mad Americans building helpful websites means it's never been easier or more cost-effective to import your own crate engine, whatever its flavour. Just be sure to send us some pictures when you've nailed it in.

Contacts:

Get on the web. There's a huge number of outfits like this, but here are some good ones to get started on.

Factory engines and rebuilt units, various nationalities

- gmv8engines.com
- crateengine.depot.com
- rebuiltcrateengines.com
- powerpro2000.com
- Custom-built American V8s
- enginefactory.com
- proformanceunlimited.com
- bouchillonperformance.com
- fordperformance.solutions.co.uk
- fordcobraengines.com