



# Zetec Into Mk1/2 Escort

It's by far the engine swap we get asked the most about, so here are the main points you need to know about dropping the legendary 16-valver into your Escort.

**T**he Zetec spearheaded the new-wave of modern 16-valve Ford engines being fitted into classic Fords around eight years ago, and it hasn't looked back since.

In fact, so many are now being installed into rear-drive (and front-drive) old Fords that we almost take the conversions for granted. Which is a shame, as it's a cracking engine. It may not have the motorsport pedigree of engines like the Crossflow or BDA (though don't forget it did

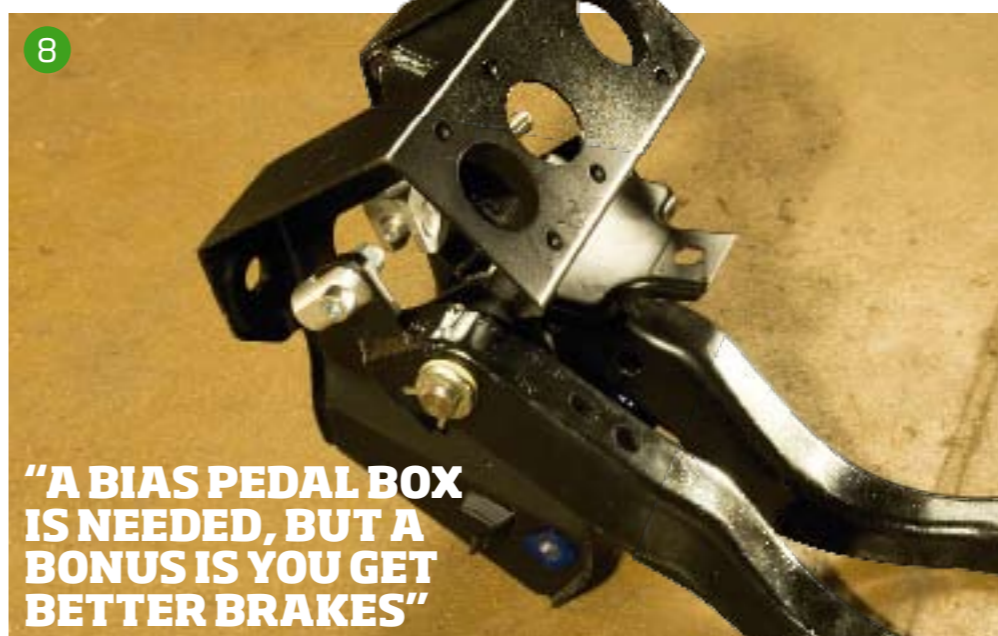
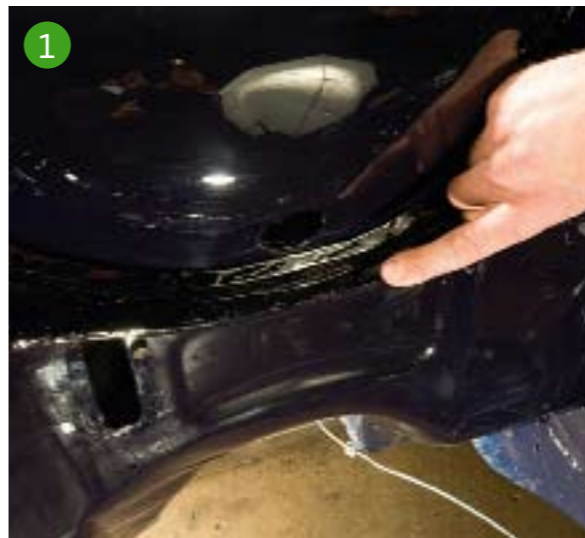
replace the Crossflow as the default engine for Formula Ford, and in turbocharged form, powered the Mk1 Focus to WRC success), but its strength lies in just that — its strength, as these are incredibly durable engines, and we've seen examples clocking up 280,000 miles that are still going strong.

After fitting a Silver Top 1800 into his concours Mk2 Escort Estate back in 2002, Dave Colledge saw the potential of these engines and

started developing a kit of parts to help others follow his example. Seven years later and his Retro Ford business has sold thousands of related components, so it's his kit that we're profiling here.

It may seem like a lot of stuff, but it's all been developed for a purpose and good reason — and that is to make the swap as painless and as factory-looking as possible for the home DIYer. So what exactly is involved? Read on.

## INSIDE THE ENGINE BAY



**1** Contrary to popular belief, no mods are needed to the bulkhead to fit a Zetec. In fact, the engine bay doesn't need touching at all.

**2** This is because Dave mounts the engine and gearbox forward 15 mm. He also raises the rear of the gearbox, thus tilting the engine forward slightly. To do this you need to cut away (then reinforce) part of the stiffening plate under the floor by the gearlever hole.

**3** As the rear of the gearbox is now sitting higher, you also need to raise the rear of the tunnel. Dave supplies this raiser plate designed for the job.

**4** Dave has had an alloy radiator produced which sits right into the front panel, but still uses the existing mounts. The pipes are also orientated so that they hook up to the water manifold. If you don't want to do any cutting of the shell, this is the radiator to go for.

**5** Like all modern engines, the Zetec's cooling system is designed to work with a header tank. This needs to be mounted as high as possible in the engine bay. On the inner wing is the usual place.

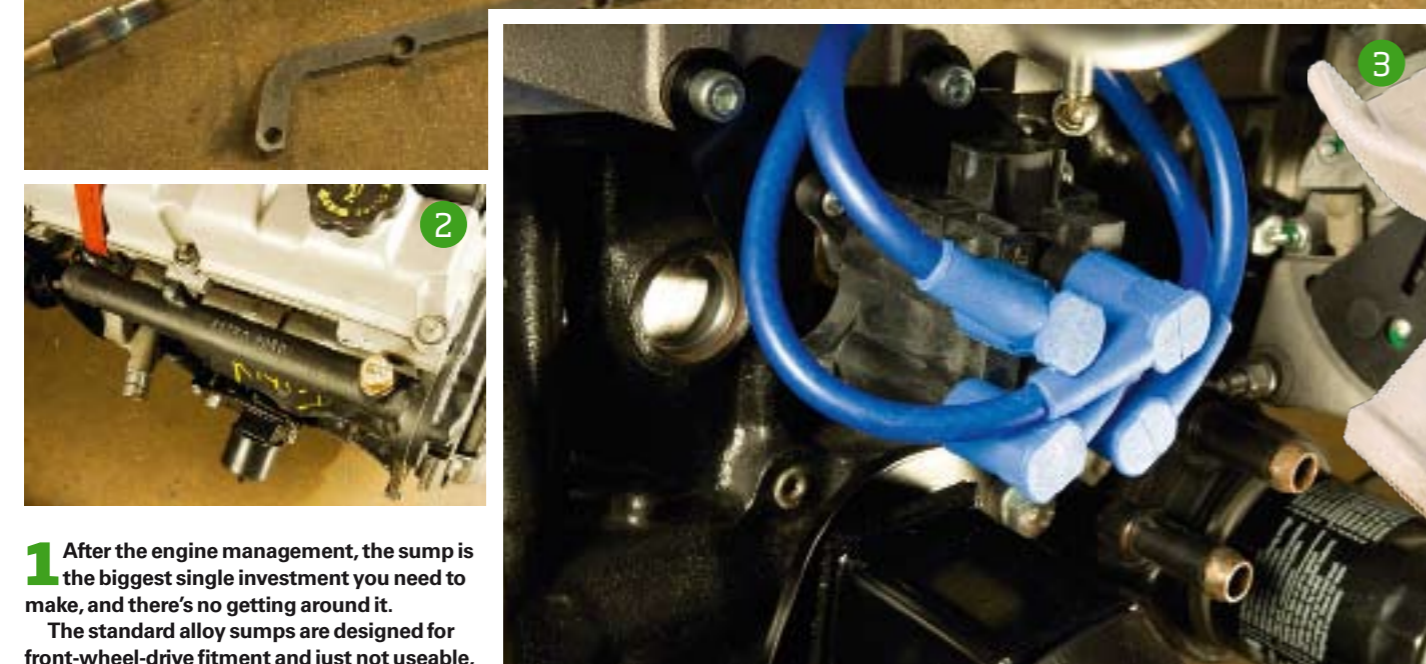
**6** The Zetec was fitted with an Exhaust Gas Recirculation (EGR) breather system which feeds unburnt gases from the crankcase into the inlet manifold. It's no good for performance though, so you need to remove most of it and install an oil catch tank. Again, this needs to be mounted fairly high up in the engine bay with no sag in the connecting pipe, which might allow the oil to drain back down. Don't be surprised if you find you have to empty the catch tank fairly regularly.

**7** The heater pipes, which protrude through the shell need cutting back so that they're flush with the bulkhead. You will need to take the heater out to do this.

**8** You will also have to remove the standard brake master cylinder (and servo if fitted) as it's in the way of the induction. A bias pedal box is needed, which relocates the master cylinder(s) inside the car. A bonus of fitting this is you get better brakes.

**"A BIAS PEDAL BOX IS NEEDED, BUT A BONUS IS YOU GET BETTER BRAKES"**

ENGINE COMPONENTS



**1** After the engine management, the sump is the biggest single investment you need to make, and there's no getting around it. The standard alloy sumps are designed for front-wheel-drive fitment and just not useable, so Dave has designed a steel one for classic Fords, that incorporates a big-wing to bring the capacity back up. It comes with the pick-up pipe, dipstick and tube, and stiffener plates. There are two types available to suit the Silver or Black Top engines.

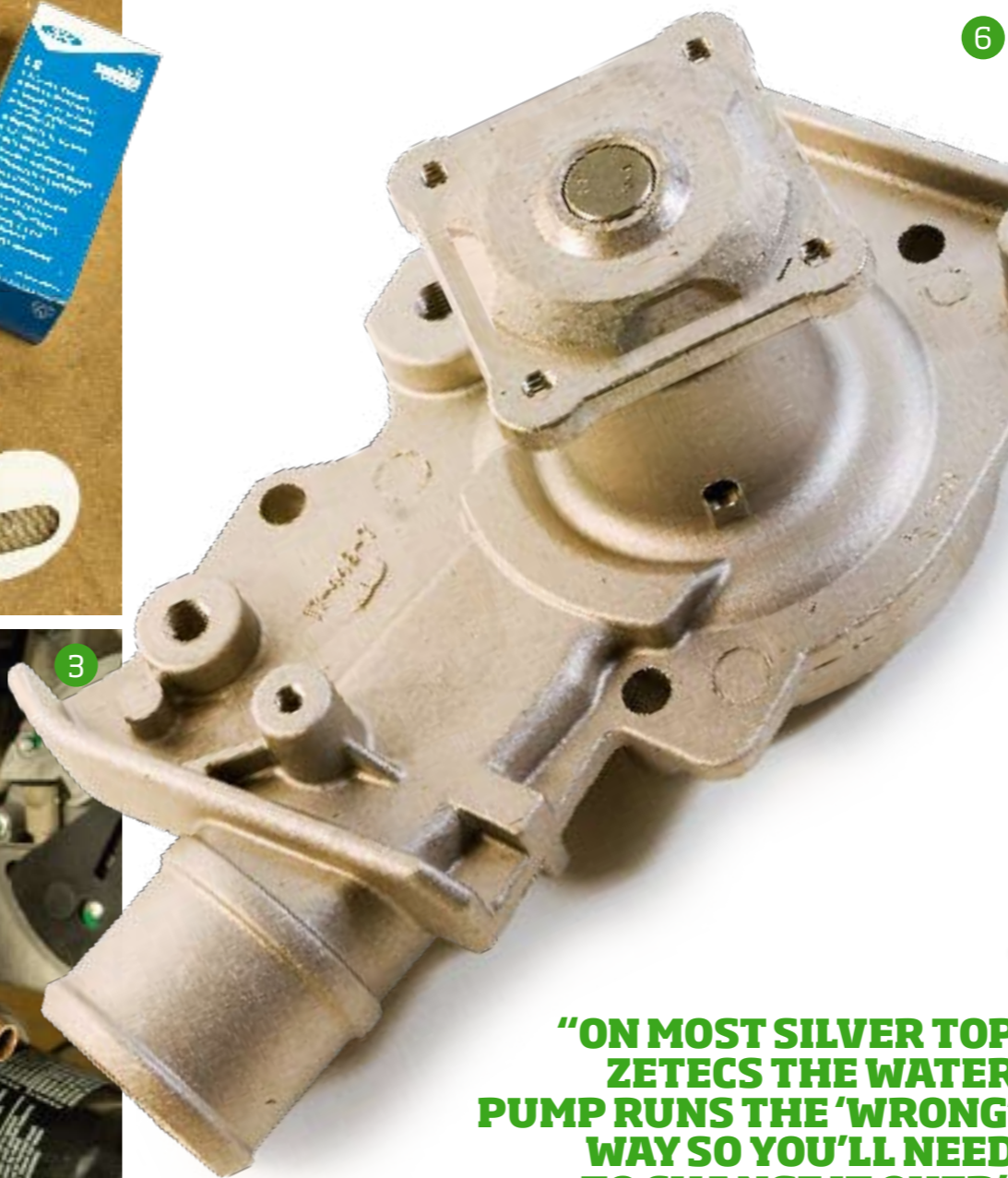
**2** The standard, rear-mounted thermostat housing takes up far too much room, so Dave has designed a water manifold to relocate

the thermostat to the side of the engine (which also incorporates a bypass system when the engine is cold). The manifold also features a fan switch and a temperature gauge sender.

**3** Originally, the standard coil-pack (which needs to be retained) was mounted on the back of the engine, but Dave has designed a

bracket which mounts the pack under the inlet manifold. Long HT lead sets are available to suit.

**4** Bespoke engine mounts are available to suit either a standard or World Cup crossmember, and fit straight on, meaning you don't need to touch or alter your Escort's steering gear.



**"ON MOST SILVER TOP ZETECs THE WATER PUMP RUNS THE 'WRONG' WAY SO YOU'LL NEED TO CHANGE IT OVER"**

**5** The standard alternator's no use, since the voltage regulator lives in the ECU. It needs to be swapped for the Lucas ACR-type, which is fitted to the engine at the top by a cast alloy block which bolts to the inlet.

The new bottom bracket bolts to the side of the block. The alternator kit forms part of the...

**6**...Water pump kit. On most Silver Top engines the pump runs the opposite way so you'll need to change it for a correct-rotation one. Black Top pumps run the right way.



INDUCTION & EXHAUST

**1** It is possible to make the standard EFI system work on a Zetec fitted in a classic Ford, but you've got to be something of a sadist to do this — it's complicated to sort out, and also limits the power potential of the engine.

There are other options, but most go for either twin sidedraught carbs along with ignition management, or full engine management with throttle bodies. Both will involve investing in an aftermarket system, with many available as complete kits.



**2** To fit either throttle bodies or carbs you'll need a readily-available inlet manifold which bolts straight on. 45 mm carbs or bodies work best on the 2-litre, while 40 mm is fine for the 1800. The manifold needs to be slotted for correct alignment if fitting to the ST170 head, as the ports are slightly higher up.



**3** Road or race, a 4-2-1 tubular exhaust manifold works best with this engine, and fortunately ones are available off-the-shelf to suit the rear-drive Escort installation.

A 2.25 inch manifold suits most engines, but a 2.5 inch version is available for higher states of tune.

## THE TRANSMISSION



**1** The Zetec uses the standard rear bolt pattern, so all classic Ford gearboxes will fit behind one, though the most commonly-used is the Type-9 five-speed.

**2** The Silver Top and Black Top flywheels have to be retained, but are remachined to take a 215 mm, 23-spline Pinto clutch. Dave supplies the flywheels outright. Incidentally, the ST170 uses a dual-mass flywheel, so this will need swapping for an earlier one.

**3** You can use either the RS2000 or Sierra bellhousing with this 'box, but you'll need an adaptor plate for the bellhousing to locate the standard Escort clutch cable.

**4** All Zetecs bar the ST170 didn't use a spigot bearing (even though the end of the crank is machined to take one), so one is needed to work with a rear-drive gearbox.

**5** You can use the standard RS2000-type propshaft.

FREQUENTLY  
ASKED  
QUESTIONS

**Q** Do I need to modify the bulkhead to fit a Zetec?

**A** No. The engine is mounted forward slightly to clear it.



**Q** My Zetec's got a flat-spot lowdown and no amount of rolling road tuning seems to cure it. Any ideas? It's running DCOE carbs.

**A** You need the later-type DCOEs which feature a fifth progression hole.

**Q** Can I fit the Cosworth's Borg-Warner T5 gearbox behind a Zetec?

**A** Yes. Retro Ford can supply a flywheel that will allow you to use the Cosworth clutch assembly.

**Q** What about the Capri 2.8i Type-9?

**A** No problem, but the first motion shaft is 15 mm longer (you can get a spacer plate to sort this). The input shaft is 10 mm too long for the spigot bearing to be able to support it though, so it needs shortening.

## HOW MUCH?

Engine.....	£150
Type-9 Gearbox.....	£150
Flywheel.....	£82.21
Clutch.....	£83.19
Starter motor.....	£102.76
Clutch adaptor plate.....	£10.28
Gearbox raiser plate.....	£21.53
Sump kit.....	£249.57
4-2-1 manifold.....	£188.90
Radiator.....	£102.76
Engine mounts.....	£71.45
Water manifold.....	£188.90
Coil pack bracket.....	£24.47
HT leads.....	£45.02
Water pump.....	£55.79
Alternator kit.....	£63.62
Alternator.....	£97.88
Spigot bearing.....	£11.74
Bias pedal box.....	£255
Throttle body kit.....	£1475
<b>Total</b> .....	<b>£3430.07</b>