



guarantee provided by the retailer.

**(Q) Is it easy to fit to my car?**

(A) On most cars the device is easy to fit for a competent amateur mechanic. All you need to do is locate the crankcase or rocker cover breather pipe, charcoal canister vacuum line or the servo vacuum line and insert the device into the breather pipe on the manifold side of any non-return valve, reasonably close to the inlet manifold (ideally no more than 30 cms / 1 ft away). See the fitting diagrams on the reverse of this leaflet. If you are in any doubt about whether your car can be fitted with the device, or about how to fit the device, please consult the list of Garages, Motor Factors and Retailers on the Ecotek web site (or by calling Ecotek) who can check your vehicle and confirm that the device can be fitted. If you have a car without a servo vacuum pipe or any other suitable vacuum pipes connecting to the inlet manifold, then you will need to drill and tap the inlet manifold. When two devices are required Ecotek can supply a splitter which also must be tapped into the manifold either directly or, most commonly, through a blanking plug. The required thread size is 1/4" BSPT. Remove the nylon "T" piece and screw the device(s) directly into the manifold or splitter as required.

**(Q) I have no brake servo because I have an ABS hydraulic pump/no power brakes?**

(A) See above and/or check for alternative breather access to the manifold - any pipe with an internal diameter of more than 4mm should be suitable. Otherwise tap the manifold with a 1/4" BSPT thread. Remove the "T" piece and fit the device directly.

**(Q) I have other Mods and Tuning accessories like a petrol boost valve, an induction kit and a modified exhaust and back box - will the Ecotek be compatible?**

(A) Yes the CB-26P works very well with these mods. Be sure to re-tune the Ecotek after any such modifications are made to your car. The Ecotek works particularly well with Power Boost Valves, which actually increases the fuel delivery pressure under acceleration. Fitting the Ecotek ensures that this extra fuel is burned properly. There are occasions when the combination of a straight-through exhaust, an induction kit and other mods will trigger the Lambda sensor and cause over-fuelling which in turn will increase petrol consumption. The Ecotek device may not help under these circumstances unless accompanied by a Power Boost Valve. When the Catalytic Converter is removed, the fitting of the Ecotek valve can often help with the MoT emissions. This is by no means guaranteed and will

depend on the particular vehicle and its state of maintenance.

**(Q) Are there any engines that it is not suitable for?**

(A) The Ecotek valve is not suitable for any diesel engines. Also it may not be suitable for motorcycle engines, Wankel engines or supercharged (permanent boost) engines. On multi-carburettor engines, where there is no vacuum balance pipe between the carburettors, it is not recommended that the Ecotek device is fitted. The rule for fitting the Ecotek CB-26P is therefore: if there is a manifold or plenum chamber which will allow the turbulent air from the Ecotek valve to feed all cylinders (which accounts for over 95% of all cars) then the device is suitable. Cars with CVT (Continuous Variable Transmission) which operate at a steady RPM (ie: do not use the full rev range or have little or no throttle variation as there are no gear changes) are unlikely to benefit from the Ecotek device. Engines fitted with a manual or automatic gearbox where there is constant throttle variation work very well with the Ecotek valve.

**(Q) Why wasn't this device fitted to my car by the manufacturer at the factory?**

(A) There are a number of reasons: 1. Ecotek Technologies owns the exclusive rights to the device. 2. The device has to be individually tuned to each car. This is complicated and expensive if incorporated in the assembly process. 3. Induction turbulence is a relatively recent development in combustion technology. 4. Most mass production cars are over engineered and designed more for reliability than efficiency. This device obviously narrows these margins. 5. Conventional manufacturers see such a device as an additional and unnecessary complication in an already complicated manufacturing process. Their attitude tends to be 'if it ain't broke don't fix it'. 6. Emissions and petrol costs have only recently moved to the top of peoples agendas and manufacturers have chosen to tackle these issues through management systems and chemical catalysts. In the long run these can theoretically reduce emissions to much lower levels than the Ecotek device. In the event, the major market of the Ecotek CB-26P is for retrofit to existing cars. Manufacturers of new cars have to choose a different direction because emission regulations will get tighter and tighter for new cars in the future. Ecotek have not been approached by any manufacturers wishing to incorporate the device in new cars.

**(Q) What do I do when I have my car serviced?**

(A) The engine should be tuned to manufacturers specifications with the Ecotek CB-26P disabled. This is best accomplished by screwing the unit closed and taping over the filter end with masking tape. In many cases garages may not have come across the device before and may not know how to tune it. Accordingly, any tuning, servicing or modification should take place with the unit disabled and once these are complete the unit should be re-tuned in accordance with the instructions - see the Fitting and Tuning sections later in this leaflet.

**(Q) Does the device make a noise?**

(A) Yes, part of its operation involves resonance and this can be rather noisy especially on new units. A specifically designed Filter/Silencer has been developed by Pipercross (for details see the Ecotek web site) - nevertheless noise can be an issue with the device and there are a number of things you can do. The first thing you should try (apart from making sure the device points away from the passenger compartment - so that any noise is projected away from you) is to unscrew the device completely and remove the valve and spring from inside the device and rotate it through 180° (one half turn) and replace and re-tune. This will change the seating characteristics and may produce a less intrusive resonance. The device makes a different noise on different cars and from one device to another the noise can be different. This is because the nylon valve seats onto the anodised aluminium head. It is not possible to make a perfect seal between these two surfaces and so an element of bedding-in is required. This will vary depending on the way the valve seats in the first place - also, in time, very small carbon deposits will cover the surface areas making a perfect seal. Because of the very low wear rates of the materials used (the valve will probably last indefinitely) this bedding in can take some time. Nevertheless it should not be intrusive, especially with the Pipercross filter. Whilst initially it seems as though the filter doesn't silence the device much, this is because there are actually two noises - one is resonance in the Ecotek unit, which should reduce as it beds in. The other is induction roar which is dealt with by the Filter/Silencer unit. If you don't have room to fit the Pipercross filter/silencer you can wrap the device in foam held with electrical ties (as on the Bentley on the Ecotek web site). You can also improve the seating by grinding the valve to the housing (the knurled cover that holds the gauze filter) - valve grinding paste or even "T" Cut will do. A very small amount of grease on the valve surface will also help.

**(Q) There is a non-return valve on my vacuum servo hose. Which side of this do I fit the device?**

(A) On the inlet manifold side. So we have inlet manifold, Ecotek CB-26P, non-return valve and brake diaphragm drum in that order. The non-return valve is fitted by some manufacturers to maintain the vacuum for power assisted braking if the vacuum line should fail for some reason.

**(Q) How long will it take for the device to start working?**

(A) You will notice an instant change. You may need to re-tune after a few hundred miles as it beds in.

**(Q) Does the device work with a carburettor or petrol injection?**

(A) Both. In the case of carburettor cars the CB-26P helps to regulate the air fuel ratio (AFR) more efficiently and also, as with injection cars, the turbulence created in the manifold creates a better suspension of the fuel/air mixture.

**(Q) Does the device work with Four Star converters, petrol additives and Lead Replacement Petrol (LRP)?**

(A) Yes, the CB-26P improves combustion on all types of petrol engines (but not diesel) regardless of how the fuel or fuel systems have been modified. In the case of LRP it cures many of the problems some motorists experience with poor starting, hesitancy and flat spots.

**(Q) Does the Ecotek CB-26P work with dual fuel cars using Liquid Petroleum Gas (LPG)?**

(A) When running on petrol the device is effective in the ordinary way. Whilst there are no empirical tests with LPG, a number of users say the device also gives economies when running LPG - it certainly does not impede the effective operation of the engine when using Liquid Petroleum Gas.

**(Q) Does it matter which way up the device is installed?**

(A) No. The CB-26P is spring loaded and dynamically balanced and accordingly is unaffected by gravity and the angle of installation. Best to make sure the intake points away from anywhere that dirt or moisture can enter the engine bay, especially when no Pipercross filter is fitted.

**(Q) Does the device work on cars with a turbo?**

(A) Yes - turbocharged cars work using a pump to increase manifold pressure which forces the fuel/air mixture into the combustion chamber. This extra pressure shuts off the CB-26P device and accordingly it is inoperative whilst the engine is under boost. However it will be effective at

all other times as with normally aspirated cars. With many turbo cars, off-boost performance can be a bit sluggish - many find that the improved response from the Ecotek considerably improves the driveability.

**(Q) Does the device work with cars fitted with a Catalytic Converter?**

(A) Yes. The CB-26P will reduce emissions even when the converter is not at operating temperature and give it less to do at all other times, thus extending its life. If the Catalytic Converter works on a closed loop Lambda system the device will still create the turbulence in the inlet gasses that improves combustion but it will also cure flat spots and hesitancy caused in many ECU (Electronic Control Unit - 'Chip') systems by reacting quicker to changes in manifold pressure. In any event many modern EFI systems will normally re-calibrate for improvements in combustion conditions.

**(Q) Does the device work on cars with an engine management system and a Lambda?**

(A) Yes, see above. A Lambda is an electronic oxygen sensor in the exhaust system which tells the ECU (Electronic Control Unit) about the Air Fuel Ratio (AFR). Modern ECU's automatically re-calibrate if the combustion process improves. In any event, when the car is cruising (throttle pressure is neutral) the system is said to be closed loop and the AFR is set as close to the stoichiometric rate as possible, thus automatically compensating for any leaning of the AFR created by the Ecotek valve, but still allowing the benefits of the additional turbulence and "swirl". When the engine is accelerating or decelerating the system is open loop allowing the CB-26P to work to maximum effect. On modern EFI (electronic fuel injection) cars the engines are set to work pretty efficiently and the main benefits of the CB-26P, will be improved acceleration and throttle response; nevertheless percentage petrol savings should still be in double figures for motorway driving!

**(Q) Will fitting the device to my brake vacuum servo affect my brakes or my ABS?**

(A) The CB-26P is a non return valve which still maintains more than sufficient vacuum (more than 18" of mercury) in the servo even when fully operational. Accordingly, braking is totally unaffected. Anti Lock Braking Systems (Automatic Braking Systems - ABS) are either electronic or mechanical at the disc and work from a separate ABS pump. The CB-26P does not therefore have any effect on ABS.

**Frequently Asked Questions**

**(Q) What is an Ecotek CB-26P?**

(A) It is a mechanical device that, when fitted to a petrol engine (not diesel) can improve the petrol consumption, enhance the overall performance (particularly throttle response) and significantly reduce harmful emissions. CB stands for Clean Burn and the 26 confirms that over 2.6 litres engine capacity an additional unit is required. P stands for petrol only.

**(Q) What tests have been carried out on it?**

(A) The CB-26P device has been independently tested by Prodrive to Euro 3 ECE 1505 vehicle emissions test standards, showing improvements in fuel economy and CO<sub>2</sub> emissions. Datron Limited used their industry leading Datron microSAT # R20-102 measuring equipment to record significant acceleration and performance gains with the device fitted.

Independent tests have also been carried out by Car Mechanics, VW Motoring, Red Line, Max Power motoring magazines and others. The Ecotek CB-26P won the REVS magazine 'Best Buy' award after a comprehensive series of tests. This and other test data and reviews are published in full on: [www.ecotekplc.com](http://www.ecotekplc.com)

**(Q) Does the device carry a guarantee?**

(A) As well as being designed to failsafe (in the unlikely event of mechanical breakdown) the Ecotek CB-26P carries a two year product replacement guarantee. A no quibble 30 day money back satisfaction

litter difficult to clear if badly clogged and the best way to solve this is by using domestic washing up liquid and hot water. Press the liquid through the gauze with your thumb and repeat until clear. You should be able to comfortably blow through the gauze when it is properly cleaned.

**(Q) Does the device bleed air when the valve is closed?**

(A) Yes, it is designed to bleed slightly when closed. See Tuning Instructions later in this leaflet.

**(Q) I can't find the right pipe on my car.**

(A) See the diagrams in this leaflet or visit the Fitting and Tuning page on the Ecotek web site and expand one of the diagrams or pictures or find a picture of the device fitted to one of the cars listed on the site or consult an expert.

**(Q) I need more help what should I do?**

(A) Go to the 'Contact Us' page on the Ecotek web site at [www.ecotekplc.com](http://www.ecotekplc.com) or contact a local Supplier. For details ring 0870 042 9574 or Email us at [ecotek.help@virgin.net](mailto:ecotek.help@virgin.net) or phone the Ecotek help line on 0700 340 1451.

**Fitting**

**Follow these instructions carefully. If attaching to the brake servo make sure there are no air leaks as incorrect fitting/tuning can result in loss of power assistance to the braking system which is potentially dangerous. If in doubt seek professional assistance or call the Ecotek Help Line on 0700 340 1451 or email us at: [ecotek.help@virgin.net](mailto:ecotek.help@virgin.net)**

The Ecotek CB-26P uses the vacuum created in the inlet manifold to create turbulence within the fuel air mixture. It needs to be fitted so that it can allow small quantities of turbulent air into the inlet manifold. This can be accomplished by fitting the Ecotek valve into one of the vacuum pipes connecting to the inlet manifold after the throttle body or carburettor. Such pipes as the brake servo vacuum pipe, crankcase or rocker cover breather pipe, or the charcoal canister vacuum pipe can be used for fitting.

**(Q) Does the device need any maintenance?**

(A) Generally not, but depending on the conditions of use it is a good idea, especially if you do not have the Pipercross filter fitted, to clean the gauze and nylon valve every 10,000-20,000 miles. Simply unscrew the top of the unit and remove the valve and spring, immerse both, together with the filter housing, in hot soapy water. The 200 micron gauze may sometimes be a

litres, two devices must be fitted in series and the one furthest from the inlet manifold tuned first. Firstly, check that the aluminium body of the device is screwed tightly into the nylon "T" piece, (tighten with a 19mm spanner). Then locate the vacuum pipe which connects to the inlet manifold as in the fitting diagrams. If you have no convenient vacuum pipes, you will need to tap a manifold blanking plug (or the manifold itself) with a 1/4" BSPT thread. If you wish to tap two devices into the inlet manifold, contact Ecotek for a splitter attachment. On some twin carburettor engines under 2.6 litres where there is no common inlet manifold to all cylinders, the Ecotek valve can be fitted into the vacuum balance pipe connecting the two carburettors.

**If you have a narrow gauge vacuum pipe, sleeve over it with 9.5mm fuel/emission hose and secure with four jubilee clips.**

Cut the hose (using a sharp blade) as close as practical to the manifold (engine side of any non return valve) and ideally no more than 30 cm away. Insert each end of the CB-26P nylon "T" piece in each of the severed hose ends and secure with jubilee clips or equivalent. This effectively rejoins the hose with the CB-26P in place - an airtight fit is essential and jubilee type clips are strongly recommended. The device is now ready for tuning.

**Tuning**

Screw the locking ring towards the nylon "T" piece as far as it will go. Screw the cap containing the filter in the same direction (i.e. clockwise looking at the filter) as far as it will go WITHOUT TIGHTENING. The unit is now locked off and you are ready to start the engine.

**Start engine and allow it to reach operating temperature.**

When the engine has reached normal operating temperature, slowly unscrew (turn anti-clockwise) the CB-26P filter housing until you feel the unit vibrate. It may be accompanied by a high pitched squeal - this is normal. Keep unscrewing the filter housing until you hear a deep loud rasping induction noise. Repeat until you are certain you have reached the point that the unit starts to operate and then turn the filter housing clockwise through 90° (i.e. by closing the filter housing a quarter turn).

**In other words close the valve (turn fully clockwise), warm up the engine and, with the engine at tick-over, unscrew the filter housing until the device makes a harsh rasping noise and close it to just the point the noise stops. Be sure you are precisely at the point that the noise stops and then**

**close the unit (clockwise) a quarter turn (90°) from that point and lock it there.**

To lock the unit bring up the locking ring (anti-clockwise looking at the filter) to lock the filter housing at the point reached at the end of the step outlined above (i.e. 90° closed from the point the CB-26P starts to operate) and tighten the locking ring. YOUR INSTALLATION IS NOW COMPLETE.

**To test the unit is working properly, pull the throttle cable to rev the engine from inside the engine bay and release it. The unit should make an induction noise on overrun which will die away as the engine resumes idle.**

It may sometimes be necessary to retune the device after a few hundred miles as it beds in and may need readjustment. On some post 2005 engines fitted with more sensitive ECU's, the Lambda warning light may illuminate after the Ecotek valve is fitted. If this happens, re-tune the device turning the filter housing 180° degrees clockwise (i.e. by closing the filter housing 1/2 turn clockwise) from the point the noise stops - i.e. an additional 90° (1/4 turn) to the normal tuning procedure. This will allow the valve to open at slightly higher revs where the ECU is less sensitive to additional air. Having done this it may take a few miles driving before the light goes out, this is normal.

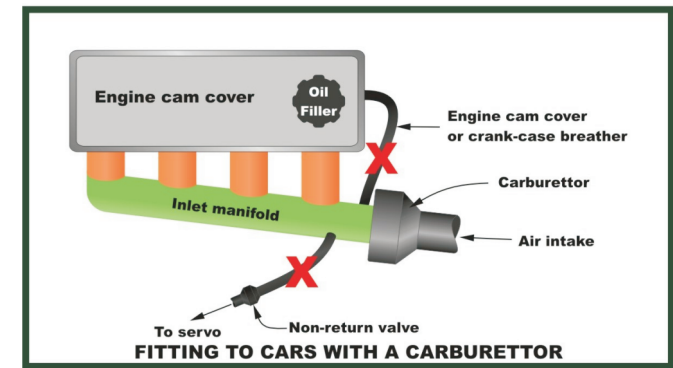
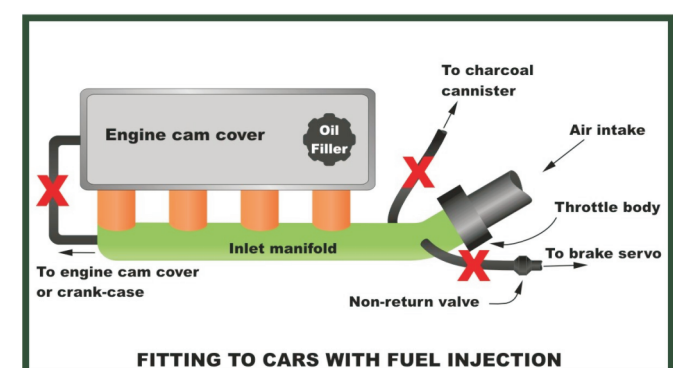
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Designed and manufactured in the United Kingdom



Suitable fitting positions marked by X

The Ecotek CB-26P can be fitted to virtually any vacuum pipe with an inside diameter of over 4mm which connects to the inlet manifold AFTER the throttle body. The crankcase or rocker cover breather pipes, charcoal canister vacuum pipe or the servo vacuum pipe can all be used for fitting the device. If the vacuum pipe's outside diameter is less than 10mm, sleeve over the existing vacuum pipe with 2 short pieces of fuel/emissions hose and connect to the Ecotek CB-26P "T" piece. Secure in position with 14mm jubilee clips. Fitting pictures for over 100 individual engines can be found on the Ecotek web site:-

[www.ecotekplc.com](http://www.ecotekplc.com)

**Ecotek CB-26P**

