

FORD FALCON EB-EL V8
5.0L WINDSOR (1991-1998)

**VORTECH / POWERDYNE
CRANK DRIVE SUPERCHARGER KIT
INSTALLATION MANUAL**

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INTRODUCTION

Congratulations on selecting the best performing and best backed automotive supercharger available today. Before beginning this installation please read this instruction booklet thoroughly.

CAPA Supercharger Systems are a performance improving device. This product is intended for use on healthy and well maintained engines. Installation on a worn-out or damaged engine is not recommended and may result in failure of the engine and or the supercharger. CAPA IS NOT RESPONSIBLE FOR ANY DAMAGES RESULTING FROM THE USE OF THIS KIT.

For best performance and durability please take note of the following key points:

1. Use only premium unleaded fuel.
2. The engine must have stock compression ratio.
3. If the motor has been modified in any way, check with CAPA prior to installation.
4. Change your oil and oil filter. Refill with the best synthetic oil available.
5. Replace spark plugs and if possible use 1 stage cooler plugs, do not use resistor or platinum plugs. Check that all components of the ignition system are in top condition.
6. Cold Starts - never race your engine when your engine is cold. Allow water temperature to rise up to operating range before driving above 2500 r.p.m. Engine damage may result in high r.p.m. and boost conditions when cold.
7. Always listen for signs of deterioration (pinging) and discontinue hard use (no boost) until the problem is resolved.
8. Change oil and oil filter every 5,000km.
9. Always use an air-filter.
10. Never strike the supercharge pulley with a hammer or other tools. (Evidence of such force will void warranty).
11. Retention belt after 500-600km, if not sooner, because the belt will stretch during initial brake in period. Tighten belt only enough to stop slippage (the belt must still have some flex), overtension of the belt is the cause of input bearing failure
12. **Vortech Oil Feed & Drain Only** - every 5,000km remove oil feed spray fitting at side of blower and clean filter gauze. Blow compressed air backwards through the small orifice.
13. Never over-rev supercharger. Internal step up on a Vortech V-3 Supercharger is 1.0 to 3.60. Impeller speed must not exceed 50,000r.p.m (**Sealed Vortech**).

Vortech V-2 / V-3 Supercharger – Do not exceed 50,000r.p.m.

$$\frac{\text{Crank Pulley Diameter}}{\text{Supercharger Pulley Diameter}} \times 3.60 \times \text{Engine RPM} = \text{Impeller Speed}$$

Powerdyne Supercharger – Do not exceed 38,000r.p.m.

$$\frac{\text{Crank Pulley Diameter}}{\text{Supercharger Pulley Diameter}} \times 3.05 \times \text{Engine RPM} = \text{Impeller Speed}$$

NOTE: The reason for grooved belts to move over one or more grooves or come off completely is always due to an alignment problem. Misalignment can also be caused by overtightening of the belt - which may damage the drive system.

GLOSSARY

COMPRESSOR HOUSING

The housing which makes up the enclosure portion of the compressor. Also referred to as the volute, scroll or snail.

COMPRESSOR SURGE

The phenomenon that occurs when the pressure ratio is too high for a given flow, or impeller speed. All centrifugal compressors can experience it. In automotive use it is most often found during decelerations when the engine speed is still high and the throttle is closed.

DETONATION

The uncontrolled rapid expansion or explosion of the air/fuel mixture in the combustion chamber.

GAUGE PRESSURE

The measure of pressure above atmospheric pressure.

IMPELLER

The bladed wheel inside the compressor housing that accelerates the air.

INDUCER

The air inlet portion of the compressor.

NATURALLY ASPIRATED

An engine without a supercharger.

PRESSURE, BOOST

The difference in pressure between barometric and intake manifold absolute pressure on a supercharged engine (read as gauge pressure).

PRESSURE, ABSOLUTE

The sum of gauge pressure and atmospheric pressure. One standard atmosphere = 29.92 in. of mercury (Hg) = 14.696 lbs./in.² (psi)

PRESSURE RATIO

Manifold absolute pressure divided by standard barometric pressure.

P.R. = gauge pressure +

atmospheric pressure

absolute pressure

STOICHIOMETRIC

The correct chemical mixture of air and fuel to yield complete combustion.

KITS PARTS LIST

Part no.	Description and Size	Quantity	Checked
1.	Crankshaft pulley (spacer included for Powerdyne only)	1	
2.	1 1/2 x 3/8 NC bolt & spring washer	4	
3.	Blower pulley and mount spacer/bolt pulley size _____	1	
4.	Blower assembly	1	
5.	Blower mount bracket	1	
6.	1 1/4 x 3/8 cap bolts and spring & flat washers	7	
7.	Large idler pulley assembly, bottom (Powerdyne only)	1	
8.	Small idler pulley assembly, top (Powerdyne only)	1	
9.	Shoulder bolt and dished washer-idler (Powerdyne only)	2	
10.	Idler pulley shim kits	2	
11.	Blower belt 6pk 1615	1	
12.	Engine belt 6pk 2515	1	
13.	Inlet tube 1000mm x 90mm	1	
14.	Intake tube protector strip 350mm long	1	
15.	Air filter assembly	1	
16.	EB-ED only - Air filter mount bracket & mount plate	1	
17.	EB-ED only - Air filter mount bracket & mount plate bolts M6 x 16mm nuts, springs & flat washers	4	
18.	EF-EL only - Air Filter mount tube	1	
19.	EF-EL only - Air filter mount tube M8 x 20mm bolt, nut & spring washer	1	
20.	EB-ED only - Plastic wheel arch cover	1	
21.	EB-ED only - (no ABS) Plastic wheel arch cover	1	
22.	EB-ED only - (with ABS) Bumper extra long nuts	2	
23.	EB-ED only - Wheel arch screw pack 6 self-tappers 3 plastic screws	1	
24.	Clamps 89-106	3	
25.	Discharge rubber sleeve 45mm x 75mm	1	
26.	Clamps 65-89	5	
27.	Blow off valve (Vortech only)	2	
28.	Blow off valve (Powerdyne only)	1	
29.	Blow off valve grommet & aluminium discharge tube (Powerdyne)	1	
30.	Blow off valve grommet & aluminium discharge tube (Vortech)	2	
31.	Air flow meter assembly	1	
32.	Blower connecting rubber tube 70x76mm	1	
33.	1000mm x 25mm blow off hose	1	
34.	Blow off Valve Sock & Tie	1	
35.	1200mm x 4mm pressure-vacuum hose	1	
36.	Flat 90 degree rubber tube	1	
37.	Brass tee pieces (Powerdyne only)	2	

Parts List continued on Next Page...

KITS PARTS LIST, CONTINUED

Part no.	Description and Size	Quantity	Checked
38.	Brass tee pieces (Vortech Only)	3	
39.	Plastic ties (various sizes)	15	
40.	PCV outlet cap and clamp (small)	1	
41.	600mm x 10mm PCV hose	1	
42.	Plastic PCV hose fitting	1	
43.	Blower bracket to power steering bracket 40mm x 10mm bolts & spring washers	3	
44.	Power steering pulley retaining bolt 1" x 3/8" NC spring & flat washers	1	
45.	Blower bracket end mount bolt 7/16 x 5 1/2 & spring washer	1	
46.	Blower bracket end mount spacer & shim kit	1	
47.	Blower bracket to air conditioner mount bolt 150mm x 8mm spring & flat washer	1	
48.	Fuel management unit (FMU) ratio_____	1	
49.	FMU mount screws	2	
50.	FMU angle fitting	1	
51.	FMU straight fitting	1	
52.	High pressure fuel hose 1200mm	1	
53.	Fuel hose, hose clamps	4	
54.	Fuel hose protecting conduit 1200mm	1	
55.	EB-ED only - Cooling fan & fitment kit	1	
56.	Throttle body coolant heater pipes brass joining sleeve	1	
57.	Brass joining sleeve and clamps	2	
58.	EB-ED only - Cooling fan relay diode kit & wiring loom	1	
59.	EB-ED only - Temperature controlled fan switch & bush	1	
60.	Fuel filter Z373	1	
61.	Spark plugs GT and sprint BP7EFS XR8 BP6FS	8	
62.	Computer chip	1	
63.	EB - ED only- 600mm x 4mm red wire (to coil)	1	
64.	EB - ED only- 600mm x 4mm black wire (fan earth)	1	
65.	EB - ED only- Spade terminals	3	
66.	EB - ED only- Hole terminal	1	
67.	Premium Unleaded & Synthetic Oil only Stickers	1	

Parts List continued on Next Page...

KITS PARTS LIST, CONTINUED

Part no.	Description and Size	Quantity	Checked
Vortech Supercharger Extras			
1.	Blower oil drain fitting	1	
2.	Sump oil drain fitting	1	
3.	Oil drain hose 450mm x 12.5mm	1	
4.	Oil drain clamps	2	
5.	Oil pump Y piece	1	
6.	Oil delivery hose and fitting	1	
7.	Idler mount post 1 7/8	1	
8.	Double bearing idler	1	
9.	Double bearing spacer & dished washer	1	
10.	Double bearing idler retaining bolts	1	
11.	Assorted plastic ties	10	
12.	Belt 8PK...../10PK.....	1	
13.	PCV hose 1000mm Length	1	
14.	Intake PCV fitting	1	
15.	Crankshaft pulley 8rib/10rib	1	
16.	Power Steering pulley 8rib/10rib	1	
17.	Blower pulley size.....8rib/10rib	1	
18.	Vortech blower	1	
19.	1 1/4 x 3/8" NC cap bolts spring & flat washers	5	
20.	T-Rex fuel pump system & relay switch kit	1	
21.	Vortech Tensioner assembly	1	
22.	Insulated female Terminals	10	
23.	Insulated Round Hole Terminals	2	
24.	Fusible Link wire	1	
25.	5mm Red Wire	5 Mtrs	
26.	5mm Black Wire	500mm	
27.	2 Core Wire	2 Mtrs	
28.	Relay & Mount Screw	1 Ea	
29.	Conduit 7mm ID	4 Mtrs	

Important before beginning installation, verify that all parts are included in the kit - report any shortages or damaged parts immediately.

VORTECH SUPERCHARGER SUPPLEMENTARY SECTION

1. The Vortech supercharger fits in the same manner as the Powerdyne unit.
2. The Vortech kit is supplied with an 8 rib or 10 rib belt pulley system included a replacement power steering pulley and crankshaft pulley.
3. It is recommended that the oil drain hose from the supercharger is fitted to an oil fitting at the sump well above the oil level, but not infringing on crankshaft or conrods. Take note, that crankshaft windage doesn't restrict the oil flow. Try to point the drain in a downwards direction.
4. The sump should be removed for the fitment of this fitting.
5. Supercharger oil delivery line is connected via oil light switch port. Unscrew oil light switch, fit in Y piece supplied, screw on oil light switch then screw in oil delivery line on the other end, re-fit oil light switch wire. Connect other end of oil pressure line to supercharger. (WARNING - DO NOT USE TEFLON TAPE OR ANY OTHER SEALANTS ON ANY OIL FEED LINES OR FITTINGS, SEALANT WILL BLOCK OIL FEED RESTRICTOR IN SUPERCHARGER. SUPERCHARGER DAMAGE WILL OCCUR AND VOID WARRANTY).

FUEL PUMP DELIVERY PRECAUTION

In some high output systems, the intank pump might not be adequate for fuel delivery.

The first step is to test the original fuel pump. Test the fuel pump when the fuel is warm and headlights are on high beam. Test for pressure and flow.

The T-Rex fuel pump fitted in line with the original fuel pump. The pump can be fitted at the rear or the front of the car.

PRECAUTION: The steel tube has a flare on the end to stop the possibility of the flexible hose blowing off. Fuel from this point on will be at very high pressure.

PREPARATION & PART REMOVAL

1. Disconnect Battery
2. Remove top engine cover
3. Remove air cleaner box and duct assembly
4. Remove fan assembly and fan surround
5. Remove all belts and remove crank shaft pulley - by removing four bolts
6. Remove power steering pump pulley (using special puller)
7. Remove three bolts bolting power steering pump to bracket (use bolt supplied when fitting blower bracket)
8. Remove grill and bumper bar assembly (**EB - ED only**)
9. Remove left hand plastic panel, front of radiator, behind bumper bar, and discard (**EB - ED only**) (*see photo 1*)
10. Remove top front air conditioner compressor bolt
11. **EB - ED Only** - Remove radiator and keep the coolant for later use
12. Remove spark plugs
13. Remove computer from car

NOTE: In the case that the original injectors are used it may be necessary to have them cleaned and flowed before completing the installation.

NOTE: For water injection kit instructions, go to Water Injection Supplement.

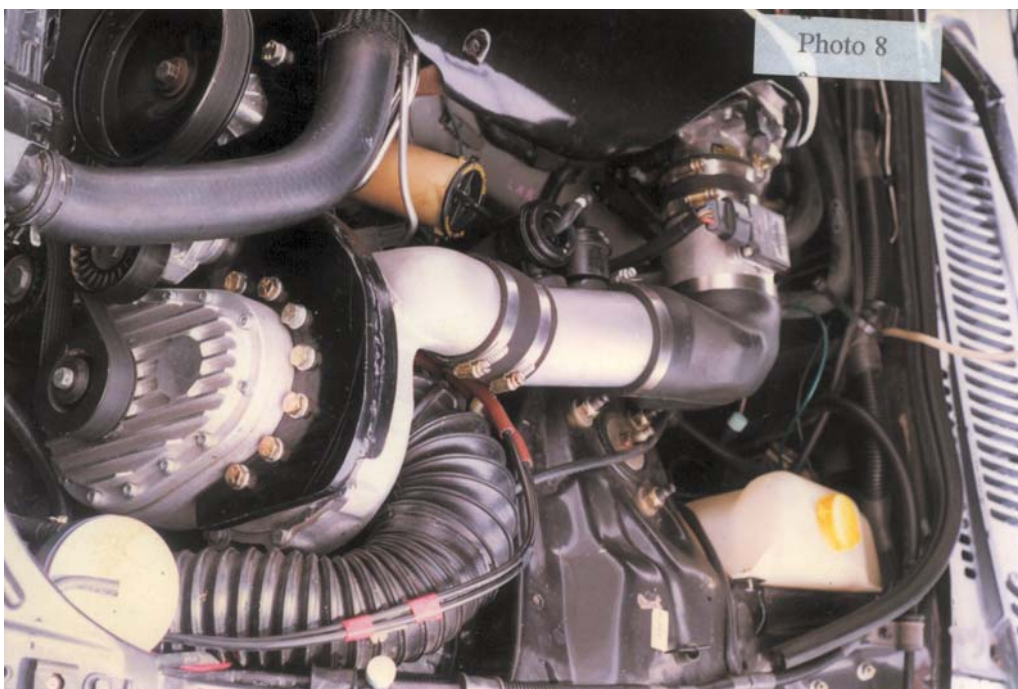
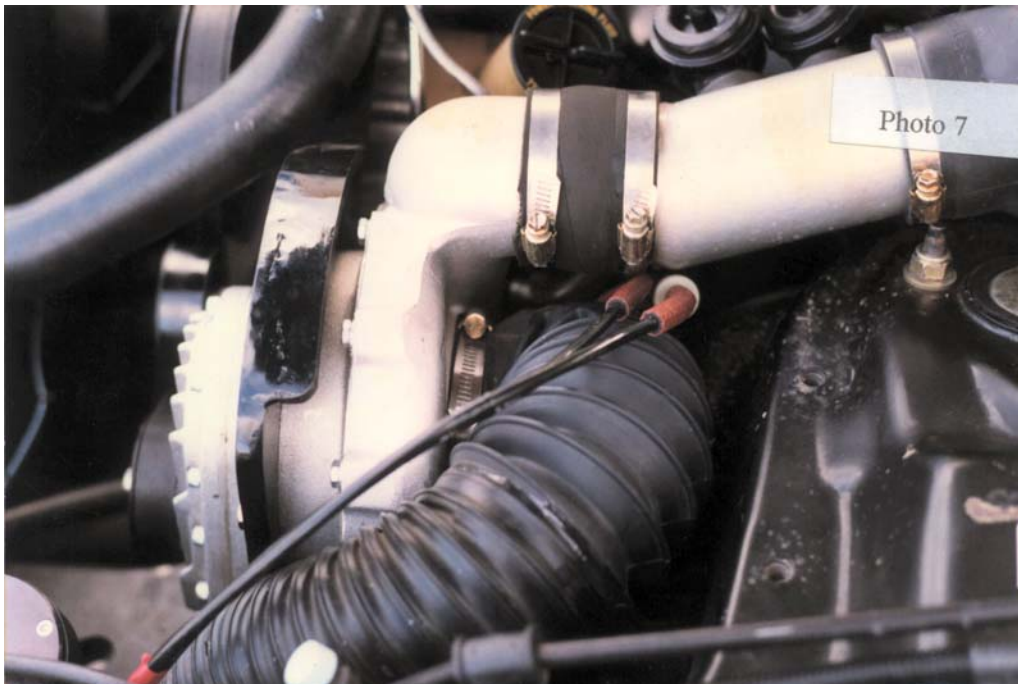


SPECIAL TOOLS

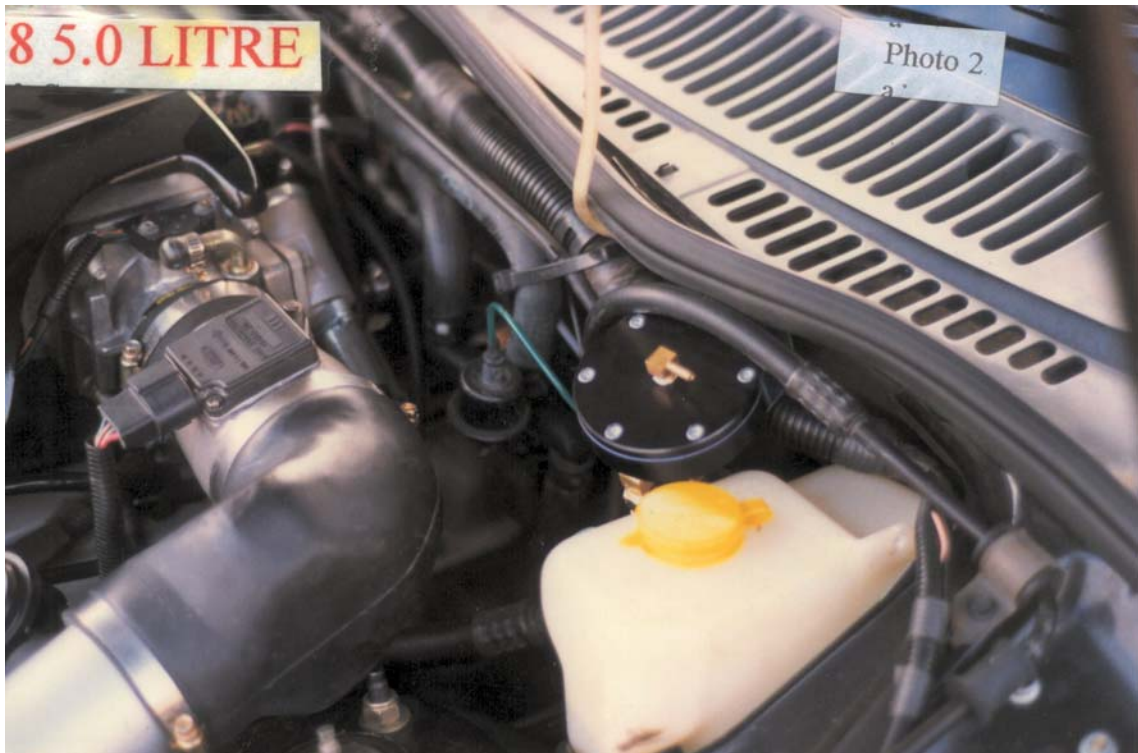
- 90 deg reverse drill
- lathe or use off
- hole saw or nibbler
- die grinder
- dyno or use of
- accurate fuel ratio meter
- boost gauge
- fuel pressure gauge
- fuel return gauge
- long straight edge

INSTALLATION

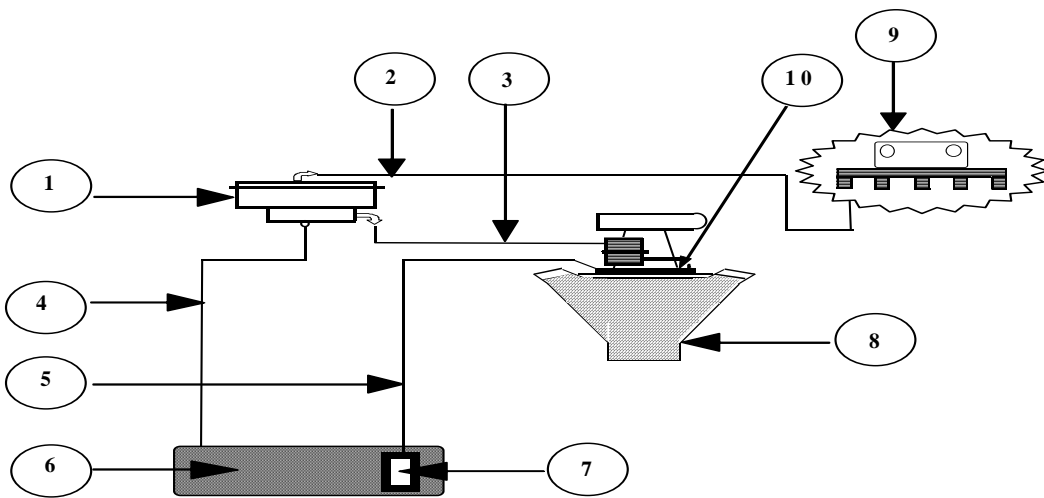
1. Disconnect water pipes going to heater block near throttle body on inlet manifold. Connect hoses together using brass joiner supplied and clamps supplied.
2. Fit new spark plugs supplied, don't use resistor, re-gap plugs to 1.1mm gap.
3. Remove the stud tips off the inside two spring tower studs on the left hand spring tower. Tip only down to the threads. You can use a die-grinder to do this exercise. Cover the motor and clean up any steel flakes thoroughly when finished. Take precaution that flakes do not get into the motor or ducting. **(see photo 7 & 8)** Note: in photo studs have not been cut. Notice how close they are to the intake duct.



4. Find return fuel line on the left hand inner guard near the motor, cut rubber section out, connect high pressure hose on both ends of the steel tube. Run hoses to fire wall and fit to fuel regulator assembly supplied. Screw regulator to firewall (**see photo 2**) Fit hoses to FMU in the order as per **regulator fitment diagram**. **Do not mix them up.**



FMU FITTMENT DIAGRAM



ITEM	DESCRIPTION
1	FUEL PRESSURE CONTROLLER FMU
2	CONNECT TO MANIFOLD VACUUM/PRESSURE AT VACUUM TREE
3	INLET FUEL LINE INTO FMU SIDE FITTING FROM FACTORY REGULAROR
4	FUEL RETURN LINE TO FUEL TANK
5	FUEL FEED LINE
6	FUEL TANK
7	FUEL PUMP
8	ENGINE
9	VACUUM SOURCE
10	FUEL RAIL

NOTE: On the left hand fuel rail, the throttle body side, at the rear of the throttle body, the pressure regulator is located. The steel fuel line, you will notice, runs towards the front of the car then back around the tappet cover, cut this line at the rubber connection and fit your FMU hoses. This is your return line. Check that the fuel runs back to the tank out of this line. It is usually the top tube.

5. Tee piece a vacuum hose to the FMU using tee piece supplied.
6. Change the fuel filter with the one supplied.
7. Test fuel pump and check that its performance is within OE specifications or replace with an OE pump only if it fails. Test the fuel pump to ensure it maintains adequate flow at top boost. Test on the pump must be done with hot fuel and headlights on high beam.

NOTE: On Vortech kits use a T-Rex inline fuel pump to increase the fuel flow and pressure, then test to ensure adequate fuel flow at higher boost applications as mentioned above. (intank pump still used) **Refer to Fuel Pump Delivery Precaution section.**

8. Cut hole for air intake hose in front lower corner of the left hand wheel arch. And include the rear left hand air cleaner box mount point, just behind ABS motor. (**see photo 3** - shows tube through hole, **photo 16** shows the area to be cut)

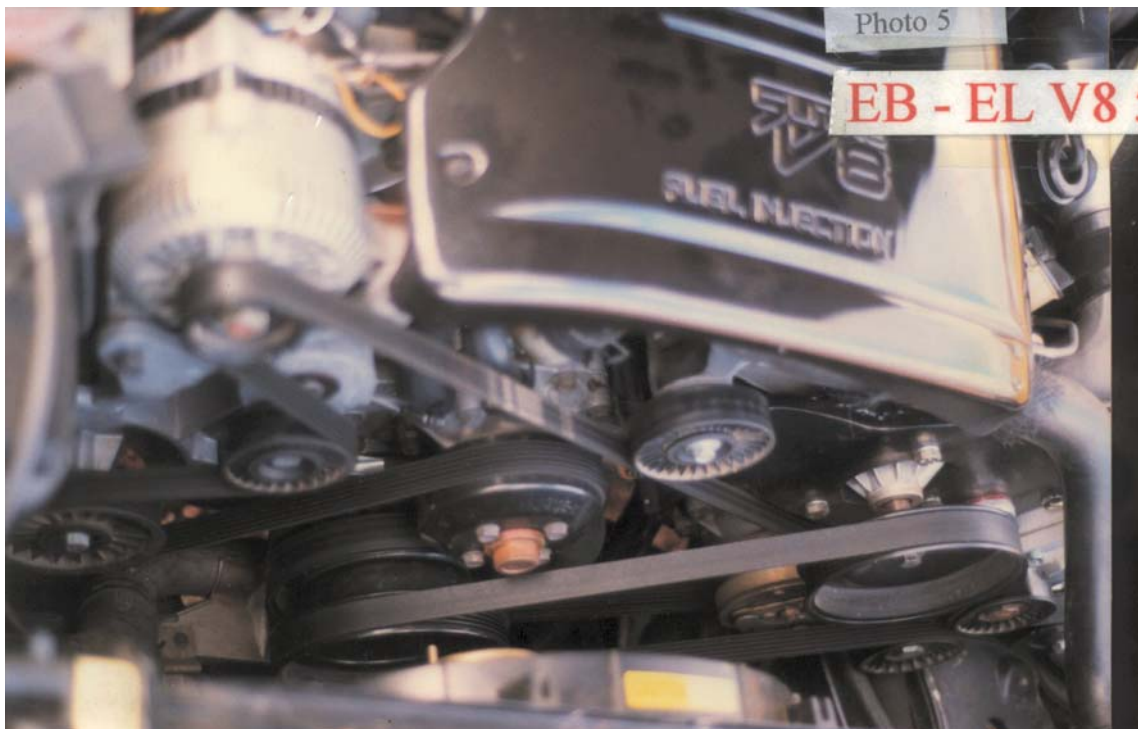


9. Fit protective strip supplied around hole to protect the intake tube.
10. Fit supercharger to bracket with bolts supplied, 7 x 1 1/4 x 3/8NC cap bolts. Fit top idler pulley (small) to bracket, just nip it up. Fit lower idler pulley (large) to bracket, at 6 o'clock position, ie, straight down, and tighten mount bolt. You will not have to adjust this mount post. Check that it has clearance to the air conditioner pipe under the pulley.

11. Fit bracket with blower to powersteering pump mount bracket, using 3 x 45mm x 10mm bolts. You will notice the supercharger will fowl on the inner guard, mark this position and remove the blower and bracket assembly. With a rag and a soft mallet, tap inner guard panel inwards to create approximately 5mm clearance between blower and inner guard. Re-bolt bracket and blower assembly and re-check the clearance. (*Shown in **photo 16 on previous page**, a white circle under blue tape indicating area to be tapped in*). Clean any loose tar in the wheel arch and touch up with black spray paint.

NOTE: Position scroll on blower. You may need to heat scroll slightly to change position. Do not rotate, lift off and re-position. Take care, do not bump impellor. Re-check impellor clearance with feeler strips min .8mm.

12. With the three bolts bolting the blower bracket to the powersteering pump, leave them loose, fit 150mm x 8mm bolt underneath blower through tube welding to bracket into air conditioner compressor. Fit 7/16 bolt through inside end of bracket (*closest to water pump*) to locate. Then tighten 150mm x 8mm bolt, tighten the 3 power steering mount bolts also. You are mounting the supercharger bracket to the powersteering pump bracket.
13. Fit new crankshaft spacer and pulley on top of the original pulley with new bolts supplied. (*See photo 5*)



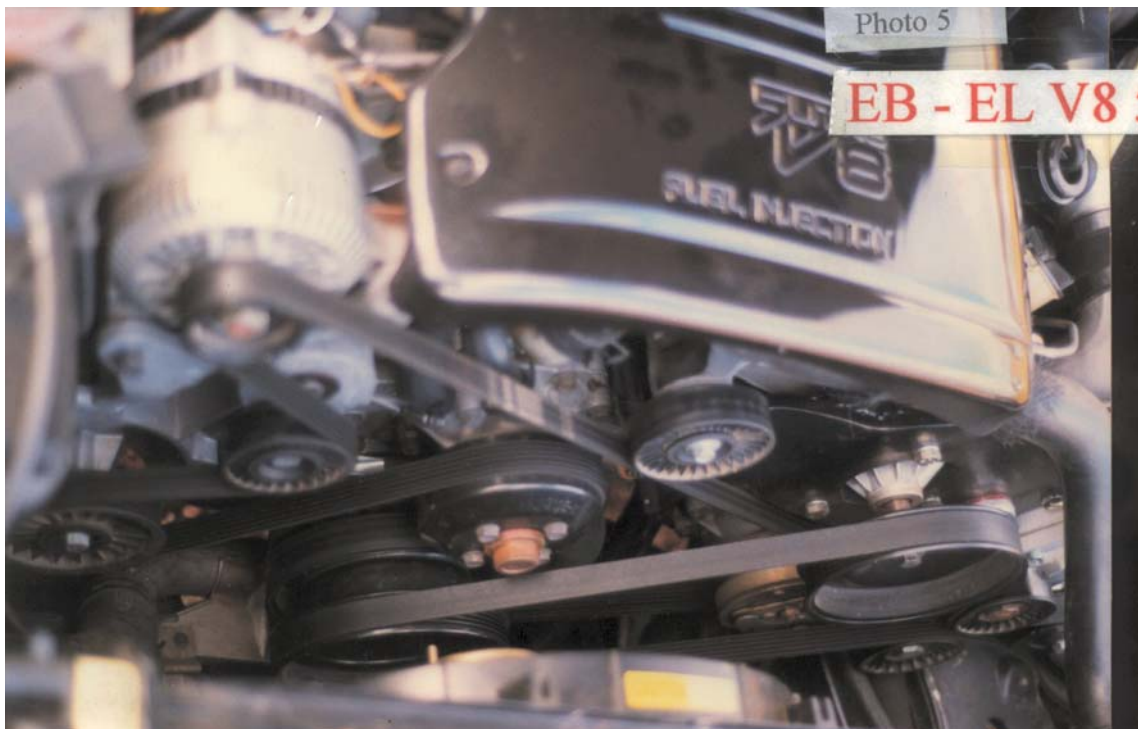
14. Check blower pulley is running true with crank shaft pulley. With a long straight edge, check that the blower lines up with the crankshaft pulley. Adjust shims behind idler pulleys, so that the pulleys run in line as well. Check that the blower is on the same vertical tilt angle as the crankshaft pulley, you can use a fishing line with a weight on the end of it to check this. Position the car so that the vertical tilt line is square with the crankshaft pulley. Check this against the blower pulley to make sure that the blower and bracket are at the same vertical tilt angle. Check against other pulleys if possible just for your own reference that you are measuring vertical. Check the measurement from straight edge to the first pulley groove on the crankshaft pulley, it must be the same on the blower pulley. Take this into consideration when adjusting the idler pulleys as well. In some cases, you may have to place shims in one or more of the three mounting points at the powersteering pump to align bracket. Recheck alignment after tightening all bolts.

NOTE: If unsure call for assistance, this is important. If you don't get this right, the belt will move on the idler pulley when you rev up the motor underload above 3500rpm.

15. With bracket now aligned and bolted, check the inner end bracket (*closest to water pump*) spacer fit snug between bracket and block. Shim up or remove material from spacer to obtain a snug fit. Then fit bolt with spring washer and tighten.

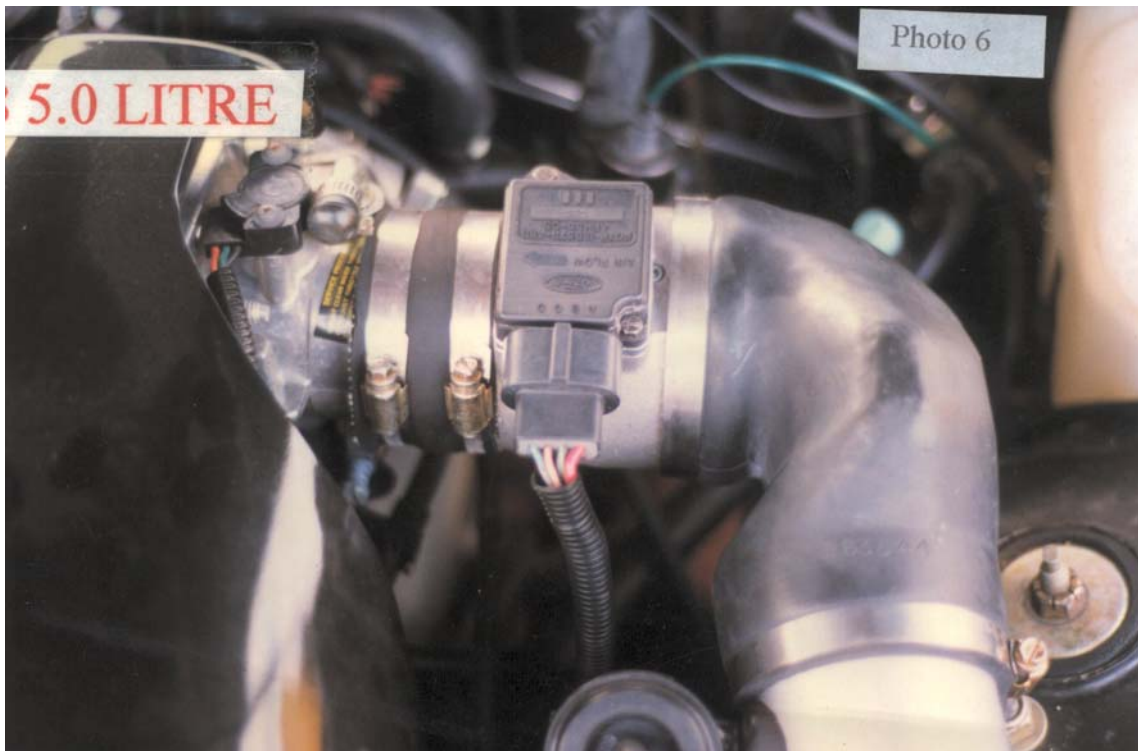
NOTE: When tightening bolt be sure that the spacer is snug and that it doesn't deflect the mount plate.

16. Fit new shorter engine belt supplied, 6pk2510, to pulleys in the same original pattern, except NOT over power steering pulley. (**see photo 5**)

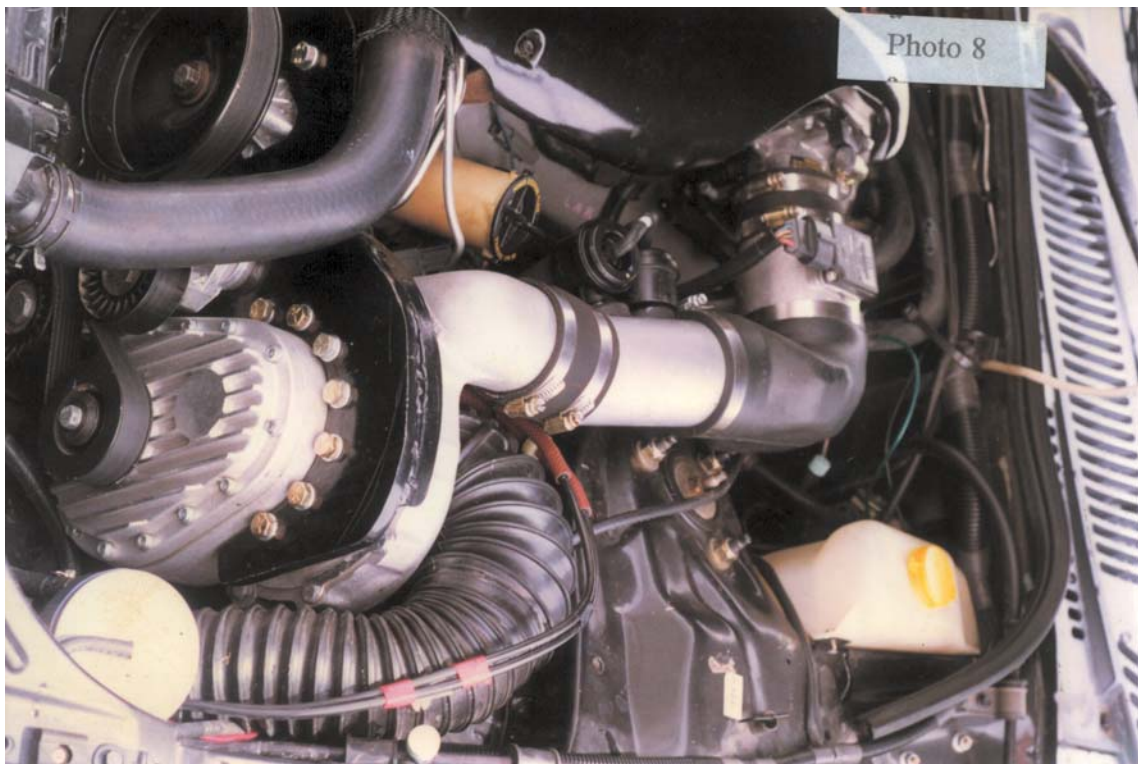


17. With tool provided remove air flow meter sensor from original air flowmeter tube. Fit sensor to larger air flow meter provided.

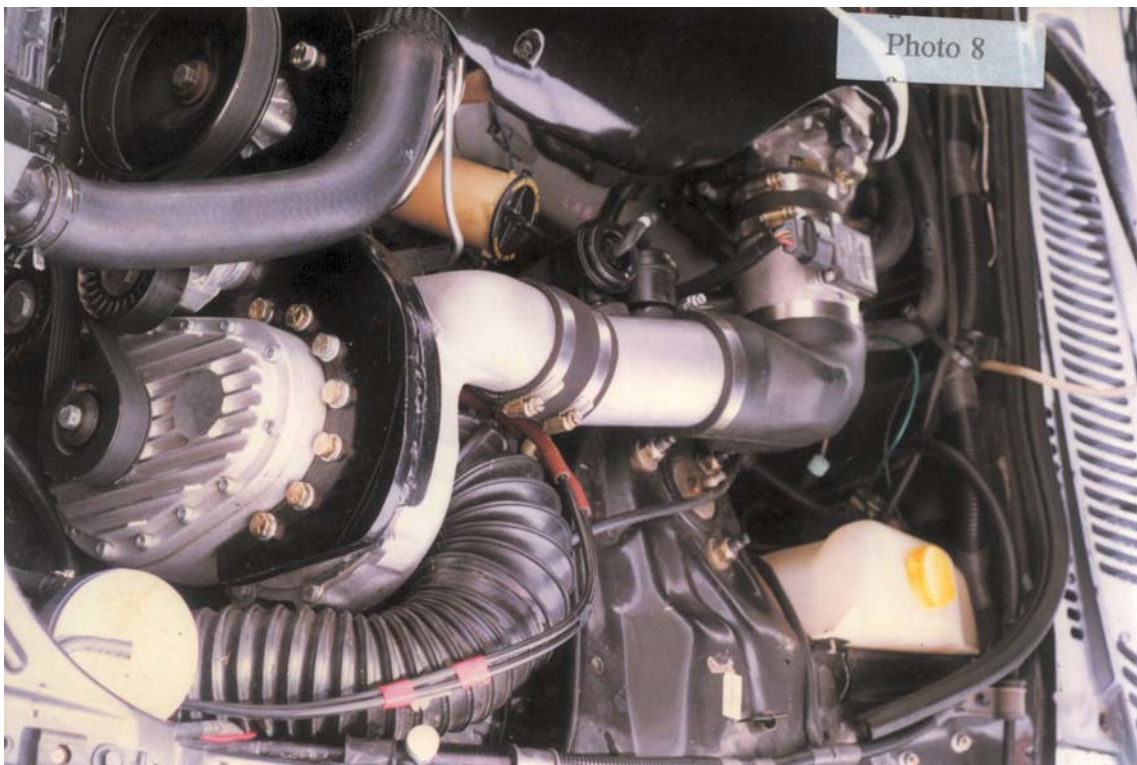
18. Using CRC or Teflon spray, fit rubber flat 90 to large end of air flow tube. Slide 45mm x 90mm tube on other end of air flow meter and fit to motor throttle body. **(see photo 6)**



19. If needed, line up blower outlet by twisting to line up position. Then tighten all 5/16 bolts around the blower. You can check where the correct position is by connecting the aluminium tube between the blower and the flat 90. **(see photo 8)** Then remove for the next step.

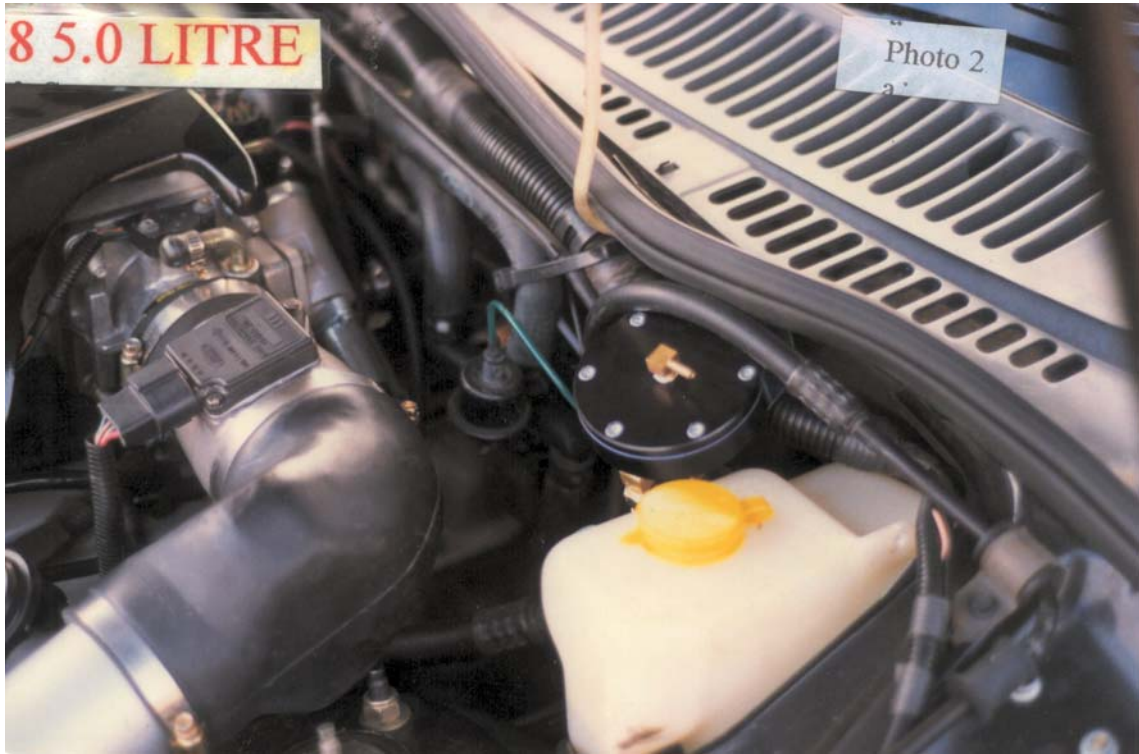


20. Using CRC or Teflon spray, fit inlet tube to the inlet of the blower. Put the tube through the hole in the inner guard, twist into position and clamp to the blower. You may need to squeeze the tube slightly as it comes up alongside the blower to give a clearance so that the blower does not rub against the tube. Then tie the tube to the air conditioning pipe. (**see photo 3 & 8**)



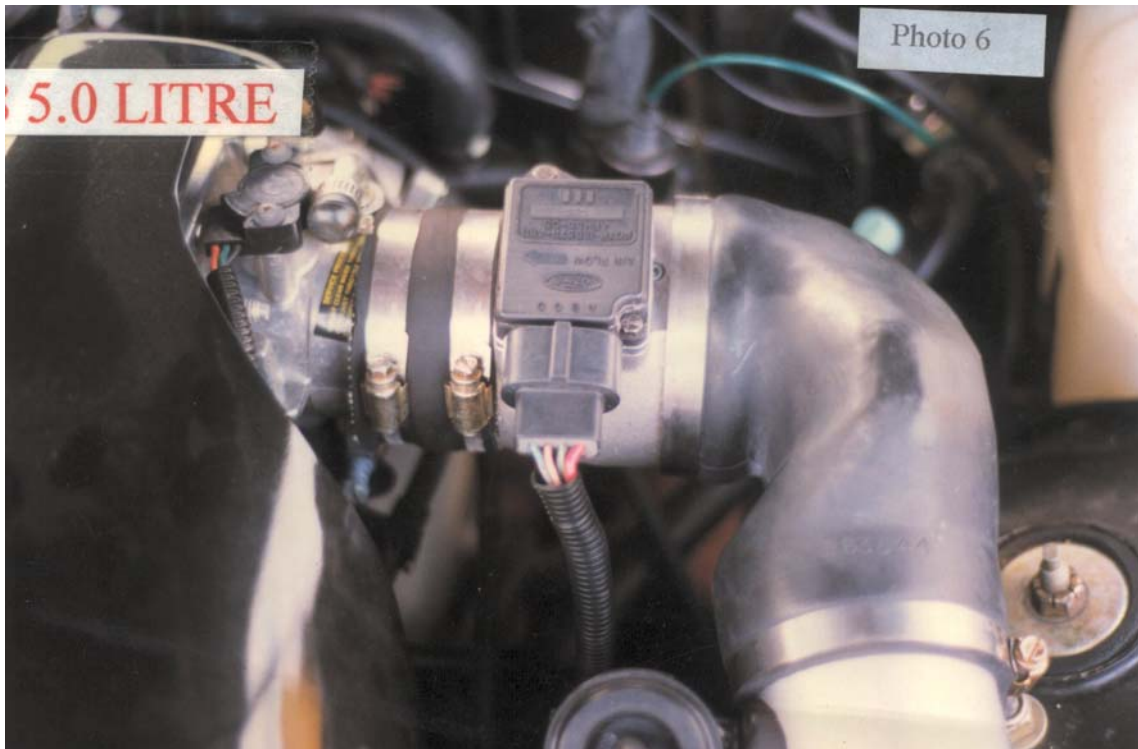
21. Fit the pressure hose and aluminium tube to supercharger and connect other end to rubber flat 90 connecting air flow meter to throttle body. Fit clamps and tighten. Re-tighten all clamps in 500kms.

IMPORTANT: Air flow meter sensor must be flat at top of air tube. (*see photo 2*)



22. Connect blow off valves to aluminium tube. Connect blow off valve hoses to valves. Route one hose under air conditioner compressor towards the front of the car. Tie to the powersteering pipe at the bottom left hand corner of the radiator. Point hose into radiator. Route the other tube through hole at the top of the left hand side chassis rail, push hose through hole to behind the bumper bar. Plastic tie the pipes where possible to eliminate any noise and chaffing. Make sure they are kept away from the exhaust.
23. Connect 4mm vacuum hose to both blow off valves via tee piece to vacuum source at inlet manifold. You will have to tee piece off an existing vacuum hose behind the manifold, near the firewall.

24. Disconnect the PCV breather hose from the throttle body. **Using the plug and cap provided, cap off throttle body PCV outlet. (see photo 6)**



25. Cut original plastic breather tube back to the first bend from end. Using new hose and fittings supplied extend PCV hose to new intake pipe fitted. Connect near supercharger. Push a hole into the tube with a Philips head screwdriver, then push PCV fitting into the hole and tighten nut to lock into tube.
26. Re-fit powersteering pulley to the pump shaft, and fit the pulley on the backwards to the original fitting, so that the pulley vees are approximately 50mm forward than the original position. Install by using a bolt into the thread of the powersteering pump shaft and tightening bolt to pull in pulley. Adding spaces as the pulley moves along the shaft or the bolts will bottom out.

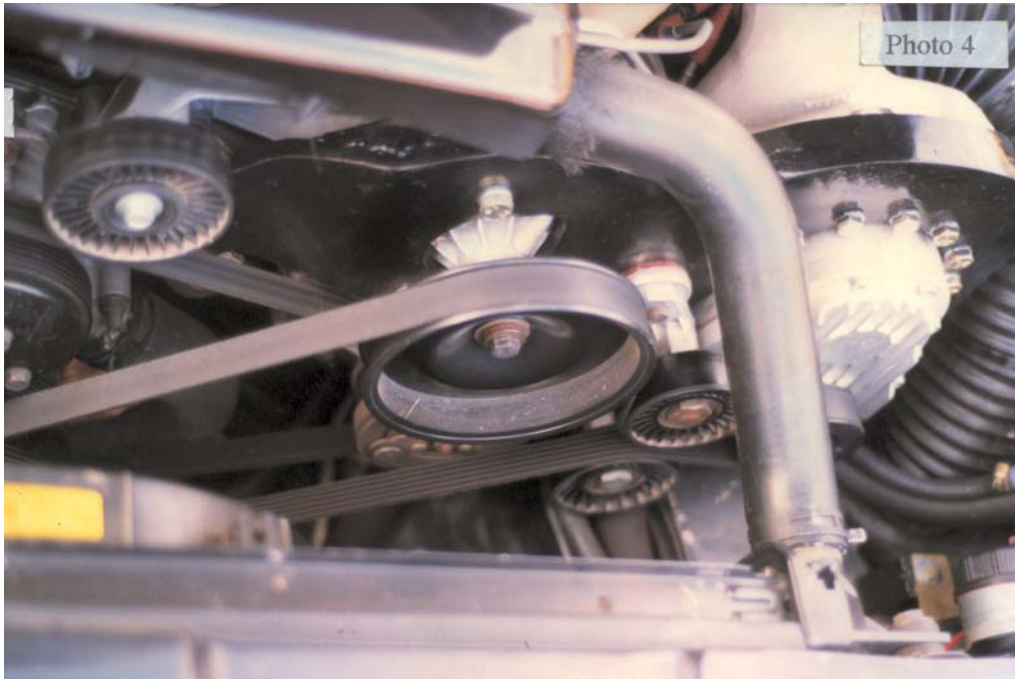
NOTE With a straight edge measure that you do not push the pulleys on too far, if you do you will have to remove the powersteering pump, the blower and the blower bracket and press it off in a press. There is a chance you will damage the pulley.

27. With a long straight edge, check that the blower pulley lines up with the crankshaft pulley, as mentioned in **task 14** Then as the powersteering pulley is pressed on, measure that the powersteering pulley is in line with the other three pulleys. To check measurement from the straight edge to the first pulley groove, it must be the same on all the pulleys. Do not necessarily take the outside edge to line them up. Take notice that the powersteering pump has end-float, take the straight line measurement in the middle of the end-float. **This is very important.** In the same fashion as above, shim in or out the idler pulley so that they track inline. (*see photo 5*)



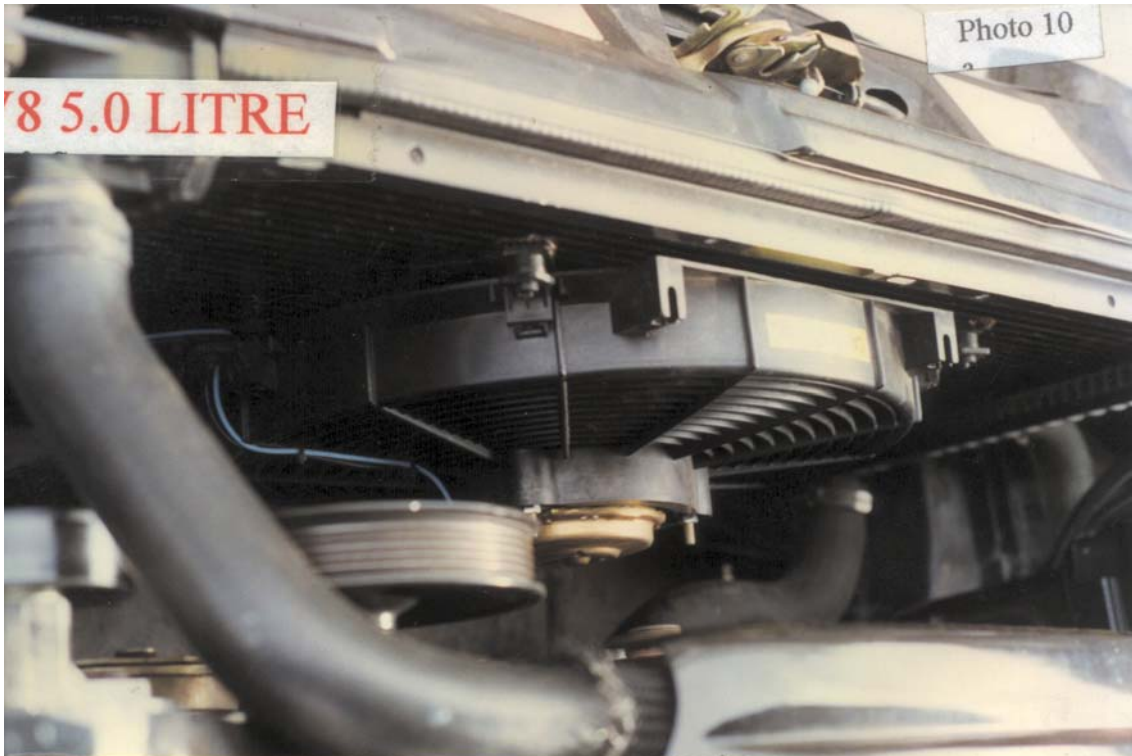
28. To recheck that all pulleys lines up. Later, wind the motor over, then start the motor. Let idle and check. Then rev up motor to check if the belts walk off the pulleys. **Do this task at the end of the fitment tasks. Continue checking the belt during breaking in procedure and complete the rev up test at the end of the breaking in procedure. Before road test review the final checklist.**

29. Fit the retaining bolt in the middle of the powersteering pulley. Use a small drop of Loctite on the centre bolt. Do not overtighten bolt or you will push the pulley on further. (**see photo 4**)
30. Fit the blower belt provided. Tension belt with top idler pulley only. The top idler must clear the top radiator hose by approximately 30mm. Tension belt tightly enough to eliminate slippage. Re-tension the belt after 500km. Do not overtighten the belt. (**see photo 9 & 4**)
31. **EB - ED Only** Cut 20mm of the end of the top radiator hose, where it fits to the radiator. Then refit the hose. This will give the hose more clearance at the pulley. (**see photo 9**)



32. **EB-ED Only** - With the radiator removed, fit the new electric cooling fan assembly with the fitting kit provided. Remove metal strip on inside of radiator, running down the middle of the radiator, don't fit the fan over this strip or the fan will touch on it. Refit the radiator.

NOTE: You may wish to refit the radiator with original fan surround in original position, if you do, then trim it on the bottom and left hand side to give clearance for the blower belt and new pulley. You must then refit the original air filter box intake tube screwed on top of radiator back on as well, but you will need to cut the tube so that it doesn't rub on the belt. **Cut the tube in a position so that it directs cool air over the blower.** The second option is to buy and fit a EF-EL top radiator cover which covers between radiator and original engine cover. (*see photo 10*)

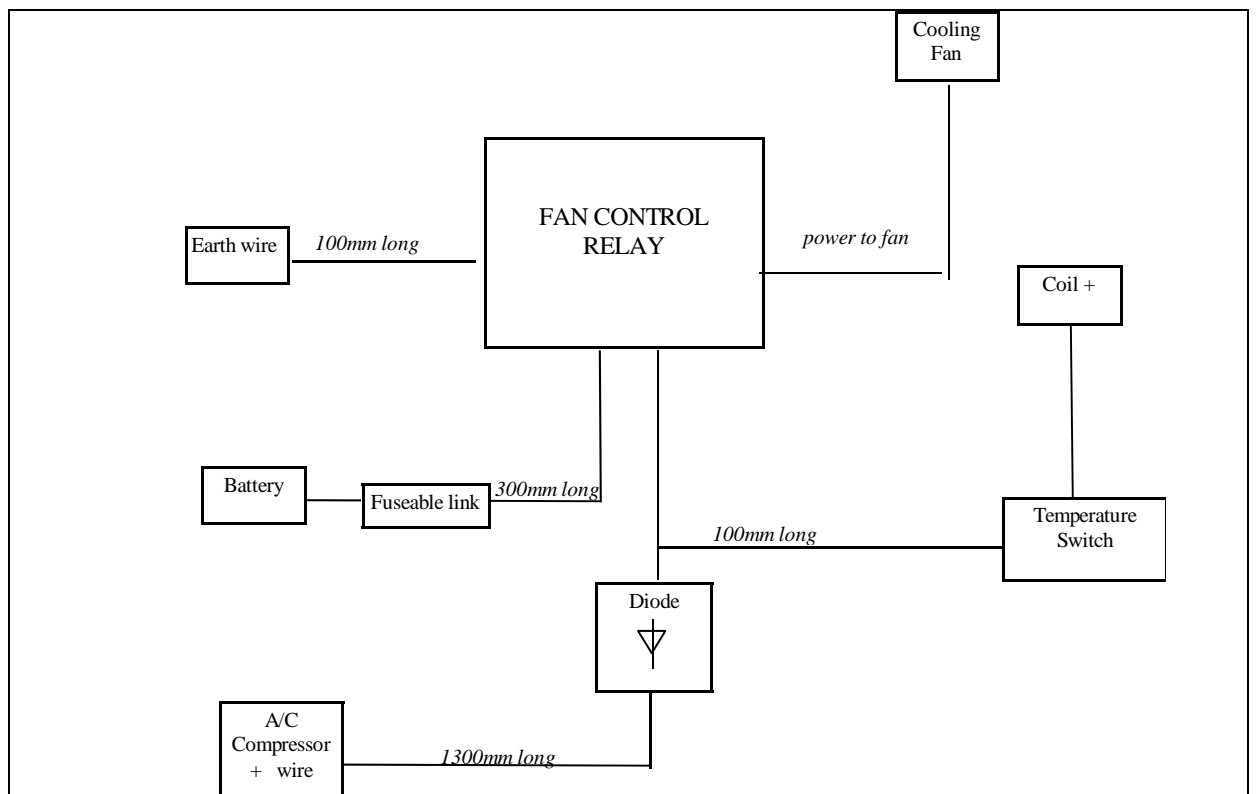


33. **EB-ED Only** - Fit fan temperature control switch to the steel water tube going to the heater at the front of the inlet manifold. Remove a steel plug in the water rail to fit the switch. (**see photo 13**)

NOTE: On Fairlanes and Fairmonts, the outlet in the steel tube is utilised. You will have to drill and tap a thread into the casting on the thermostat outlet. There is a Boss casted in the outlet from the factory.



34. **EB-ED Only** - Fit relay near the other relays located on the right hand side of the battery on the inner guard. Wire up as specified in cooling fan wiring diagram. (*see photo 14*)



35. **EB-ED Only** - With the bumper bar removed, fit air filter mount plate under the left hand headlight. Use the bolts supplied. Fit the air filter mount tube and air filter to the mount plate. **(see photo 1)** Trim to length, and connect the intake tube. You may have to push the hose into a slight over shape to get it in around the bumper. Fit the protector strip on the left hand outer bumper support. Trim the flat section of the plastic nut that affixes the bracket to the bumper bar, so that it does not damage the intake tube. **(see photo 3)**

PRECAUTION: The air filter is mounted in this position to ensure that it collects the cold air without being effected from engine bay temperature. You will notice that its position is lower on the car than original mounting position. Take this into consideration when attempting water crossings in extreme conditions the possibility exists of water entering the intake. Ensure all drivers are aware of this possibility and take necessary precautions.



36. **EB-ED Only** - Refit the bumper bar using the new long bumper nuts supplied.

NOTE: On GT models with spotlights with bumper bar, you will have to modify left hand bumper spotlight mount before fitting bumper bar back on. This will ensure you don't foul the air cleaner assembly.

37. **EF-EL Only** - With the wheel arch inner guard removed, position the air filter mounting bracket up behind the bumper bar. Drill an 8mm hole in the seam where two pieces of metal are spot welded. Bolt the air cleaner bracket with the air filter fitted to this position. This should then position the air filter assembly in an area where it will not chaff on anything. With the intake tube through the hole made in the inner guard, fit the intake tube to filter mount tube and refit the plastic wheel arch. You may need to trim the intake tube to length. (*see photo 15*)



- 38. EB-ED Only** - Fit the wheel arch cover shield to the area at the front of the left hand wheel arch. Use plastic clips on top edge where they protrude into the engine bay and self tappers on other edges to affix, seal edges with black sealer. This will stop any dirt or water being flicked off the wheel going towards the air cleaner. **(see photo 11 for fitment)**

NOTE: No ABS - mount air filter similar to explain task number 37 EF-EL and fit plastic wheel arch cover supplied for non ABS models.



39. With the computer removed from the car. Remove lid from computer box and remove circuit board from computer box, remove plastic cap at the bottom of the computer, opposite end from the wiring plug. With a tissue or rag, wipe protective coating over circuit board connector strips, discard and wash your hands as this substance is poisonous. With a small scraper gently scrape every single connecting tab clean, be careful not to damage lead connecting strips, wipe with a cloth, refit board and fit lid. New computer chip panel should plug in from outside, refit the computer with the chip installed and refit the cover. (**see photo 12**)

NOTE: Battery must be disconnected at all times during this process



40. **Auto Trans Only** - Remove the auto control computer and replace trans control chip.
41. Drain the petrol tank and refill with Premium Fuel.
42. Re-connect the battery.
43. Refit engine covers.
44. **EB-ED Only** - Refill the cooling system then **start the engine as in task 28**. As the engine idles bleed out any air from the cooling system and add coolant. Do this in conjunction with **task 28**. Do not mix two different types of coolants together.
45. Review **task number 28** to re-check that all pulleys line up.
46. Check and adjust the idle if necessary, you might have to turn idle down slightly, check after running for 10 minutes. Run in blower as per breaking in procedure.
47. Review 'Breaking In' procedure.

WATER INJECTION

Water injection is available as an option and has its benefits.

1. Maintaining a cooler intake charge due to the evaporation of water.
2. Reducing heat soak at blower and inlet manifold.
3. Added protection for detonation on extremely hot days.

NOTE - CAPA kits are not designed with water injection, so its use is not critical for reliability and performance. If water injection is fitted, you will enjoy extra benefits that go with its use.

BREAKING IN

Run motor at idle and fast idle for 5 to 10 minutes, do not rev up motor, then stop motor allow blower to cool for 10 minutes, then drive at no boost for approximately 10 minutes, not exceeding 3,000rpm, then allow blower to cool. Drive vehicle not exceeding 3,500rpm at no boost for approximately 100 to 150kms. This will ensure that the bearings and drive belt are run in before loading up the system by boosting. Always warm the motor - blower, before using boost. This will help in the life longevity of both the motor and blower. **Before driving, review the Final Check List. This procedure is very important and must be carried out to the letter.** Dyno tuning may only be done after this procedure is completed.

Do not dyno run car until the 100-150km has been driven.

GENERAL NOTES

It is the installers responsibility to dyno the car to check that all systems are working correctly, especially maximum fuel delivery and to check for any presence of detonation.

Check boost on dyno and that advertised boost is not exceeded and rpm occurs at designated rpm.

Have injectors cleaned and flowed. A must on used injectors, peace of mind on new injectors.

Make sure that all fuel hoses are in excellent condition, or replace. Check that all clamps are tight and that there are no fuel leaks.

The blower will have a sweet high pitched whirring noise from the belt drive. As the blower goes through its running in time, the noise will slowly dissipate.

PRECAUTION: If the blower ever gets louder or starts to make an erratic noise or a noise through the intake tube, such as a air hissing noise, disconnect the blower belt and call CAPA for assistance and advice.

FINAL CHECKLIST

1. Carefully review the entire installation. Check oil and fuel lines near moving parts and the exhaust system to ensure that these lines are safe, secure and not twisted or kinked. All wires and hoses should be firmly secured with clamps or wire ties.
2. Check all fluid levels. Your vehicle should be filled with premium fuel before any driving. It is important that you performed an oil and filter change. If you did not do so before, it should be performed now before proceeding further.
3. Start engine and idle for a few minutes. Check your timing. You want to run as much timing as possible while avoiding detonation. It is better to lean on the side of less timing and no detonation!
4. Shut off your engine and check for fluid leakage, signs of rubbing parts, and other potential problems. Pay particular attention to fuel leaks, check by using CRC spray any vacuum leaks at base of injector.
5. Check nothing is near any hot spots.
6. Your vehicle should display a significant increase in performance when you step into the throttle, with no detonation, yet should maintain its previous driveability during daily driving. If this is not so, review your installation, then contact CAPA assistance.
7. For best performance and reliability, **always use premium grade fuel** and listen for signs of detonation. Back off throttle should detonation occur. With a properly installed supercharger and appropriate timing, detonation should not be an issue.
8. Never race your engine when your engine is cold. Allow the water temperature to climb into operating range for several minutes before driving above 2,500r.p.m. to ensure adequate oil lubrication.
9. Please review the maintenance and warranty sections within this owner's manual.
10. Please take special note, operation of vehicle without all sub assemblies completed and properly installed may cause failure of major components.
11. After road test or first hard drive, check belts are okay and running properly in their grooves. Check the tension of belt and retension if necessary.

WARNING

DO NOT ATTEMPT TO OPERATE VEHICLE UNTIL ALL COMPONENTS ARE INSTALLED AND COMPLETE. SUPERCHARGER KITS EXTRUDE A HUGE AMOUNT OF HORSEPOWER FROM A STOCK ENGINE THEY ARE NOT INTENDED FOR CONTINUOUS PERIODS OF MAXIMUM POWER OUTPUT. IT IS NOT OUR INTENTION TO CREATE RACE PROVEN HORSEPOWER BUT LEISURE ENDURING SYSTEMS.

GET OUT THERE & ENJOY...

