



AU Falcon V8 S I, II and III

RAPTOR ProStreet Kit FITTING INSTRUCTIONS

8 – 10psi 310 – 420Kw

SAFETY INFORMATION

- REMOVE THE KEY FROM THE IGNITION OF THE CAR – THE CAR MUST BE ELECTRICALLY OFF – NOT EVEN THE CAR RADIO ON.
- DO NOT SMOKE NEAR THE CAR.
- NO NAKED FLAMES OR OTHER IGNITION SOURCES.
- PRE-READ ALL INSTRUCTIONS BEFORE STARTING THE INSTALLATION
- WEAR SUITABLE PPE FOR THIS TASK i.e. GLOVES, EYE PROTECTION
- ASSESS ANY OTHER POTENTIAL DANGERS AT YOU FITTING SITE BEFORE YOU BEGIN THE INSTALLATION - PUT PROTECTIVE MEASURES IN PLACE
- DO NOT DRINK ALCOHOL DURING THIS EXERCISE
- USE THE CORRECT TOOLS FOR THE JOB – FAILURE TO DO SO CAN RESULT IN PERSONAL INJURY
- IF YOU ARE DRAINING LIQUIDS FROM YOUR VEHICLE STORE AND DISPOSE OF THEM SAFELY
- ALLOW 5 HOURS ON AVERAGE FOR FULL KIT INSTALL – IT'S NOT A RACE. ACCURACY/ATTENTION TO DETAIL IS MORE IMPORTANT THAN SPEED!!



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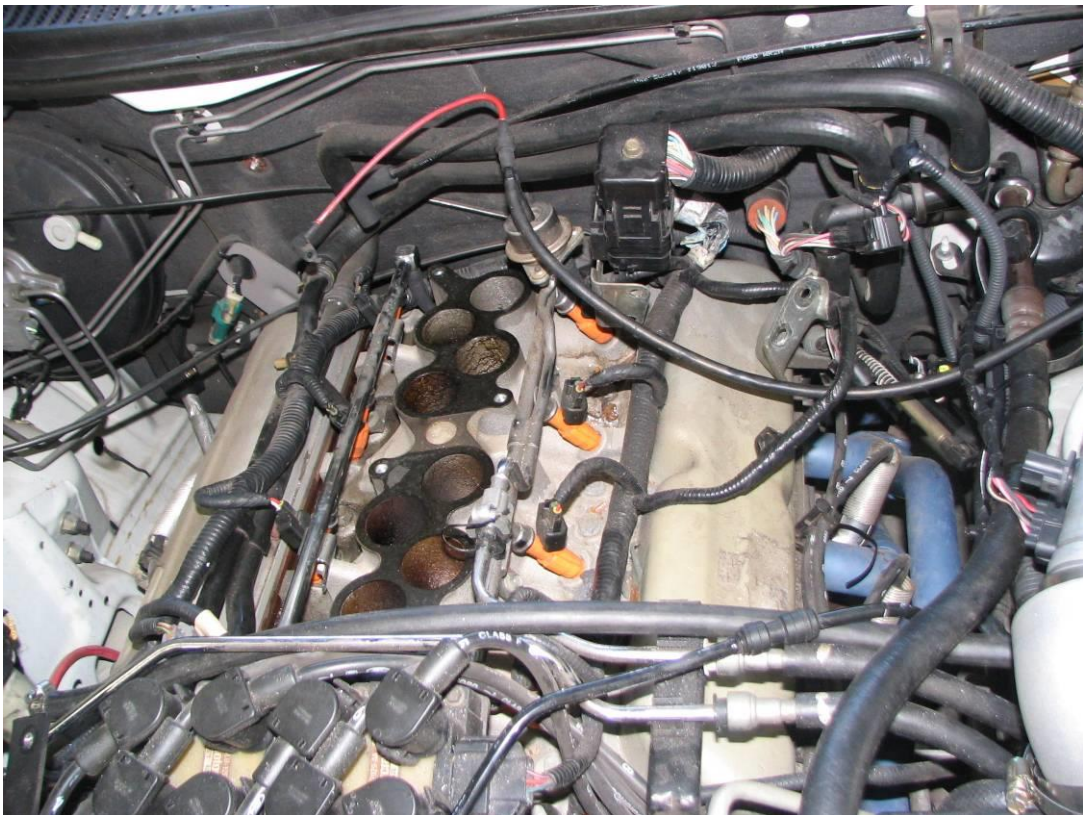
Preparing the engine for installation of the supercharger system

1. Clean the entire engine properly before doing any work, especially around the fuel injectors so that dirt/grit is not accidentally brushed into an open injector hole. Disconnect the battery, make certain you have your radio 4 digit codes before performing this step or you may find you have a permanently inoperable stereo system!
2. Remove the air filter assembly, including air box, cold air snorkel and the plastic pipe that takes air around to the throttle body. When done your engine bay should appear just like the image below.



Removing manifold and fuel injectors

3. Remove inlet manifold and remove the standard fuel injectors and replace with the supplied cream coloured NIPPONDENSO 41lb injectors, these new injectors are a direct fit, rubber grease on the injector orings prior to refitting the fuel rail is recommended. Take extreme care with the locking clips, depress only enough to release the plug from the injector, any more than exactly what is needed will snap the retaining clips off and you will then need to fasten the injector plug with a ziptie. The following image shows how the engine will look once you have removed the inlet manifold. There are 2 bolts fastening the injector rails to the lower half of the inlet manifold, remove these to release the injector rails to facilitate the injector change out.



4.

5. The next image depicts the inlet manifold underside, all the hoses MUST be hose clamped so they are not blown off by the positive pressure that will now be present in the inlet manifold.



6. Refit the manifold to the engine, remember to preinstall the very long bolt into the rear most hole before positioning manifold back on engine, and take care to NOT damage the manifold gasket. Replace gasket if in doubt. Take great care to correctly reinstall all the throttle linkages etc properly, failure to do so could be catastrophic.

Sparkplugs

7. Remove the sparkplugs and replace with your own new sparkplugs . Gap to 1.0mm, if misfiring occurs then re-gap to .85mm.
8. Now is a great time to find the rubber bung which comes with a clamp, there should be a packet called breather kit, blank off the throttle body connection for original breather line and connect new length of hose to engine oil filler tube connection for breater, this will then in turn connect to fitting on supercharger intake pipe.

Remove engine belt

9. Remove the engine drive belt, a 15mm socket and breaker bar is needed, loosen and carefully remove belt from a pulley then slowly release the tensioner, there is a great amount of force present so do not let the breaker bar go until the tensioner is rested against its stop. YOU CAN INJURE YOURSELF ON THIS TASK
10. Remove the 2 large bolts through the alloy bracket below and to the left of the power steering pump, also remove 1 bolt from behind the power steering pulley, to get to these you must rotate the PS pump pulley and put your socket through the pulley. This 1 bolts is located at the 11 o'clock position approximately.
11. Next remove the upper left hand bolt from the AC compressor mounting also – see image below



- 12.** Under no circumstances should any gas or hoses be removed from AC compressor, it is an offence to release AC gas into atmosphere.

Fit the supercharger bracket to engine

- 13.** Take the supercharger mounting bracket and slide it into place, you will need great patience to do this if you like to preserve the paint job on the bracket. The following image shows how the bracket mounts behind the power steering pulley correctly and over the AC pipe. **BE SURE YOU HAVE REMOVED THE IDLER PULLEY FROM BRACKET PRIOR TO FITTING AND THEN REFIT IT AFTER BRACKET IS SECURED.**



14. Securing the bracket, you must now slide the 2 alloy spacers in behind the bracket and position them so you can get the 2 large bolts (supplied) through them, leave loose until all other mounting bolts are started. The single chamfered head bolt is for the mounting point that you access through the Power Steering pulley

Finally reinstall the AC pump mounting bolt and tighten, then proceed to START all other screws/ bolts.
REINSTALL THE IDLER pulley. These bolts will be tightened later as

15. Now take supercharger and fit it to the bracket, slide it carefully through the bracket – pulley first, then fasten to bracket with the 8 stainless steel tapered screws, SC out let should be in a position similar as shown in image at point 12. Tighten screws firmly but not insanely, they will never work loose so just firm is enough.

Fitting the intake pipework for the SC system

16. FIT INTAKE PIPE TO SUPERCHARGER, as you cannot fit it later when the SC is in place, since all the bracket mount bolts are loose (you may need to remove the bolt at the AC compressor) pull bracket and SC forward, now FIT INTAKE pipe to SC. Clearance between SC intake and strut tower is VERY TIGHT.



17. Now swing bracket back into place, fit the bolt to the A/C compressor back into place and while holding a little upward pressure under the blower/bracket assembly then tighten all the bracket mounting bolts

Fitting the discharge/boost pipework

This pressure side pipework mounts the BOV (which is adjusted prior to shipping) and a rubber grommet into which you fit the AIR TEMP SENSOR, you may need silicon spray lube and plenty of force to push the sensor into the grommet. Connect the BOV vacuum line to a vacuum source.

Fit the silicone sleeve to the throttle bod and fit the pipe assembly

Then, take the supplied 32mm hose for the BOV return and connect it to the intake pipe – failure to fit this hose will mean the engine will not idle and there will be clouds of black exhaust smoke emitted.



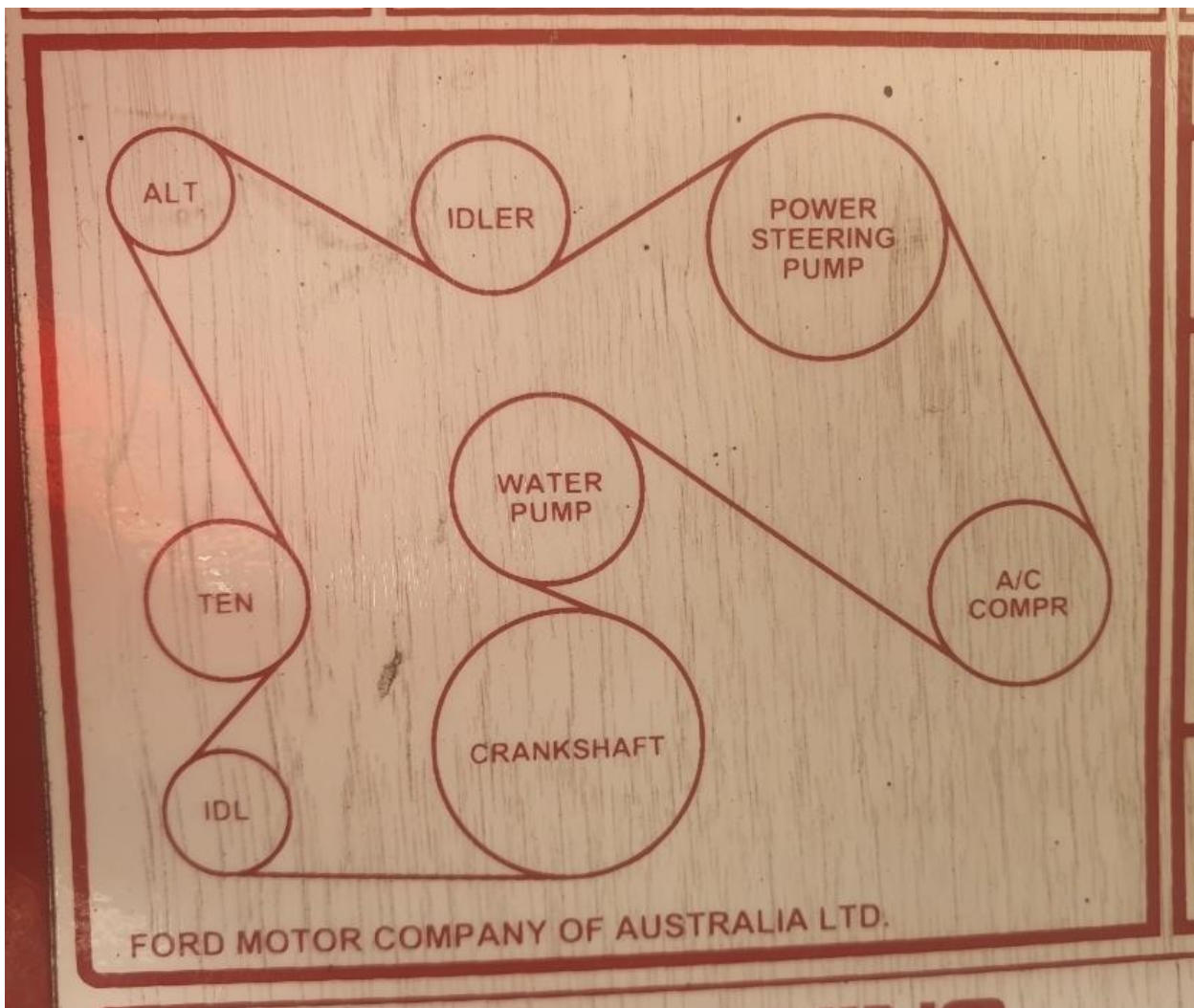
18. Take your **Air Temp sensor** and insert it into the rubber grommet which has been installed in the pressure side pipe. This will take quite a bit of perseverance and effort and silicon spray lube. The air temp sensor is ESSENTIAL for safe operation of the engine.
19. **Fit the BOV** to the mouting on the pressure side pipe, the outlet of BOV points the opposite way to the bend in the pressure pipe.
20. Next you can fit your pressure side pipe, use the shortest piece of silicone hose at the throttle junction. The longest piece at the supercharger out let connection. Tighten all clamps securely
21. **Connect BOV** vacuum line to the small hose that connects to the fuel pressure regulator, use the supplied Tee and cut the vacuum hose to length
22. Now install the intake pipe to the supercharger, GENTLY tighten the 3/16" screw that fastens the intake support arm – too tight and you will strip the thread out completely
23. **Fit the POD adaptor** to the Air Flow meter
24. Fit Air Flow Meter to the intake pipe using the remaining piece of 3" silicon hose
25. Fit the POD filter to the POD adaptor – a small spray of silicon spray will help it to slip on easily
26. TIGHTEN ALL THE HOSE CLAMPS THAT YOU HAVE INSTALLED SO FAR. Connect wiring to the Air temp sensor
27. **EXTENSION OF MAF** wires, a piece of wiring (5 core) is provided and some small pieces of heat shrink, you will need to solder each connection to reliably extend the MAF loom.
28. **Next thing is the engine breather system**, you have been supplied a length of 3/8" hose and matching clamps and also a rubber blanking bung. You will disconnect the connection from engine oil filler tube to throttle body and then connect from oil filler tune connect to supercharger intake pipe which has a 3/8" tube welded on.

Engine/supercharger drive belt

Find in your kit the GATES brand drive belt - 6PK2725

The supercharger and its idler are to the top right of the PS pump.

Your engine belt will now leave the top of the PS pump pulley, go down under the idler on the SC bracket, then over the supercharger pulley and back down to the A/C pump



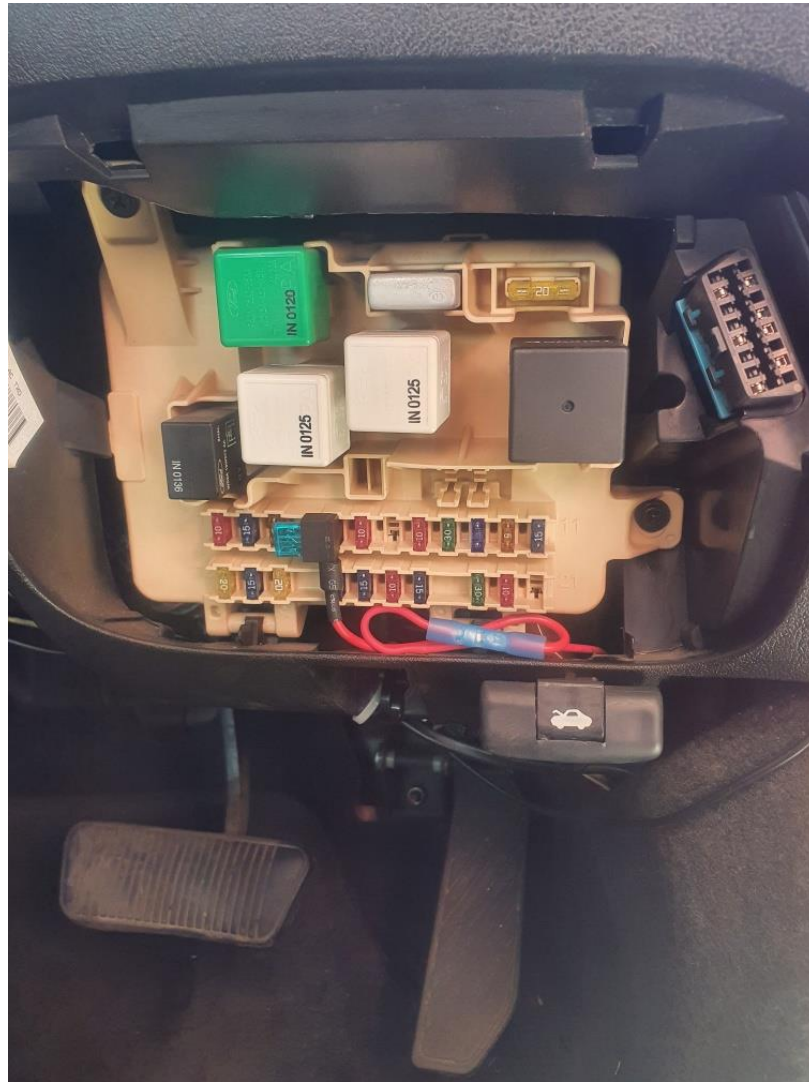
Electrical

29. **Your electric fan unit** (supercharger cooling fan) has to be located behind the grill/numberplate OR in another COLD AIR location, use the supplied zip ties. Then use the supplied wiring (30 amp relay and wire kit) and fuse adaptor to electrically connect the fan to your fuse box. Select a fuse that has 12V of power only when key is switched on. Earth the black wire of fan to chassis. Fuse box picture shown. Insert the supplied convoluted air hose onto the fan (use the supplied adaptor) and then run this hose around to the

supercharger an slip onto the black poly fitting on the topside (or bottom side) of the supercharger transmission. Silicon spray will assist with slipping the hose on. Fitting this COOLING KIT is critical to safe operation of the supercharger

The fan has a variable speed trimpot, set this so the fan runs at about 60% of its maximum speed – perfect amount of airflow to cool the supercharger transmission. Running at 100% will overheat the fan due to the 100% duty cycle, this will shorten its life dramatically.

ADD A FUSE IN PLACE



Cooling fan system (FAN DRAW IS 35 Amp on start up)

This consists of a

1. Blue MOTOR CONTROLLER
2. A speed controller that plugs into the motor controller

3. Black and Red Power feed wires that plug into the motor controller
4. A mounting bracket and 4 x 3mm screws to mount fan to bracket
5. Air delivery hose with adaptor on one end to fit the fan unit
6. Fan itself, 2 stage variable speed centrifugal fan w/ 3phase AC motor



FAN Wiring guide

PIN NUMBERS ARE NOTED ON THE UNDERSIDE OF RELAY

There should be a note in this fitting guide as to where the fuse adaptor plugs in to your fuse box – this will give you your KEY ON power supply and signal wire to the relay (pin 86)

Your Relay needs an earth, so you run the PIN 85 wire to Earth (battery or body)

Your relay needs a Power feed direct from battery – battery direct to PIN 30 (red wire coming from relay)

Your RED fan power wire from blue fan controller connects to this pin (as the 2 pin female plug on the end) connects to PIN 87A (blue wire coming from relay)

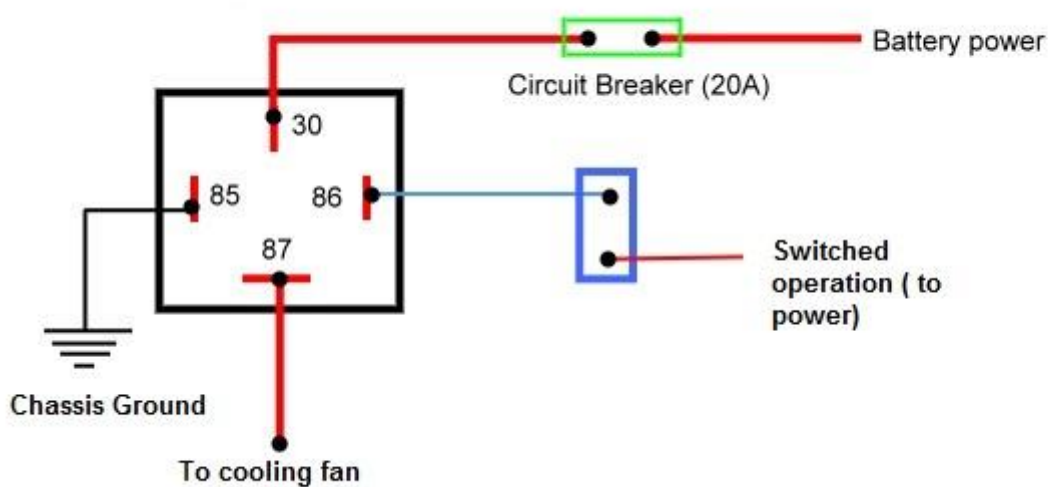
Your Black fan earth wire should ideally go to chassis or even back to the battery

Now you can plug that two wire female into the blue fan controller

Then you take the fan speed controller with its 3 wire plug (but is 5 pins wide if I recall) and plug it directly into the blue fan controller also, and insulate it and keep it nearby to fan controller – adjust it for 60% of maximum speed once its all going

Then, plug the motor and its wide connection plug directly into the blue fan controller as well

If you have all that completed correctly, your fan will start and run when the key is turned on



7. Get your vehicle certified by State authorities, e.g. blue Mod plate if in Queensland. Inform your insurance company of modifications.
8. **This kit is manufactured to suit maximum engine RPM of 5800rpm – more RPM than this can damage the supercharger.**
9. Now, have your vehicle professionally tuned, here are some SUGGESTED suppliers of tuning for the AU XR8

WESTERN AUSTRALIA

- Xtreme Ford Tuning - <https://xtremefordtuning.com.au/>
E-mail: simon@xtremefordtuning.com.au
Telephone: (08) 9250 8266
- BPT MOTORSPORT
- **Address:** 58 Conquest Way, Wangara WA 6065

- **Phone:** (08) 9302 3415

NSW

- INTUNE MOTORSPORT
- 3/15-17 Tucks Road Seven Hills, Seven Hills New South Wales 2147
- 02 9620 8320

QLD

- CHIPTORQUE
- 10 Lawrence Drive, Nerang Queensland 4211
- 07 5596 4204

- Brisbane Tuning and Turbo
- 17 NILE Street, WOOLLOONGABBA Queensland 4102
- 07 3393 1588

VIC

- Bullet Performance Racing
- 6 Traminer Ct, Waurin Ponds Victoria 3216
- 0418 102 616

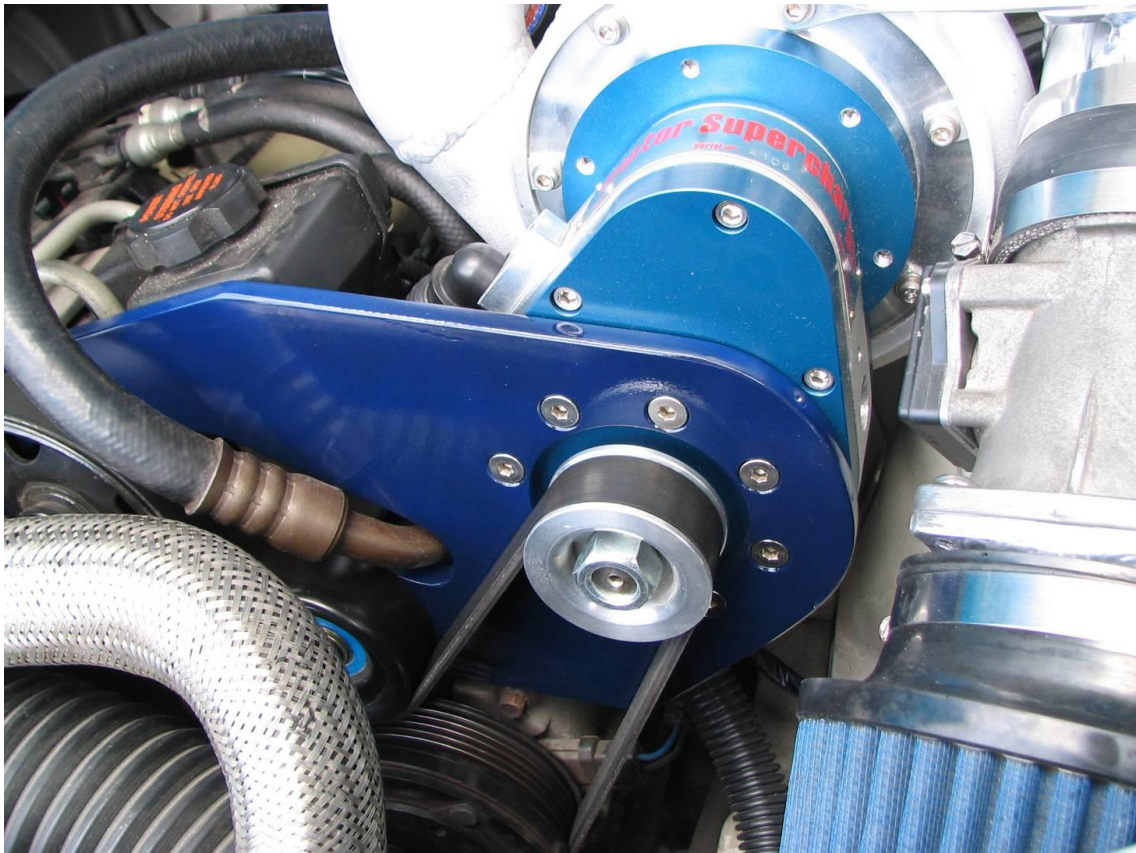
ONLY RUN 98 OCTANE FUEL

Change engine oil every 5000km

Service air filter every oil change

Use Iridium spark plugs if you are looking for the best ignition performance

Images of the kit installed – early style kit





2019 onwards kit version



ADDITIONAL NOTES – FOR GREATER BOOST AND POWER OUTPUT

1. To improve flow to supercharger and ultimately increase boost a little and total horsepower upgrading the supercharger intake to 3.5" is the VERY FIRST STEP TO TAKE
2. A Water/Methanol injection kit has been proven to add up to 30 – 40hp with this supercharger kit. Companies like AEM and SNOW PERFORMANCE are recommended for products of this type



3. The PRO M 80 with integral air filter is HIGHLY Recommended, high flow and most compact arrangement



PRO M MAF METERS

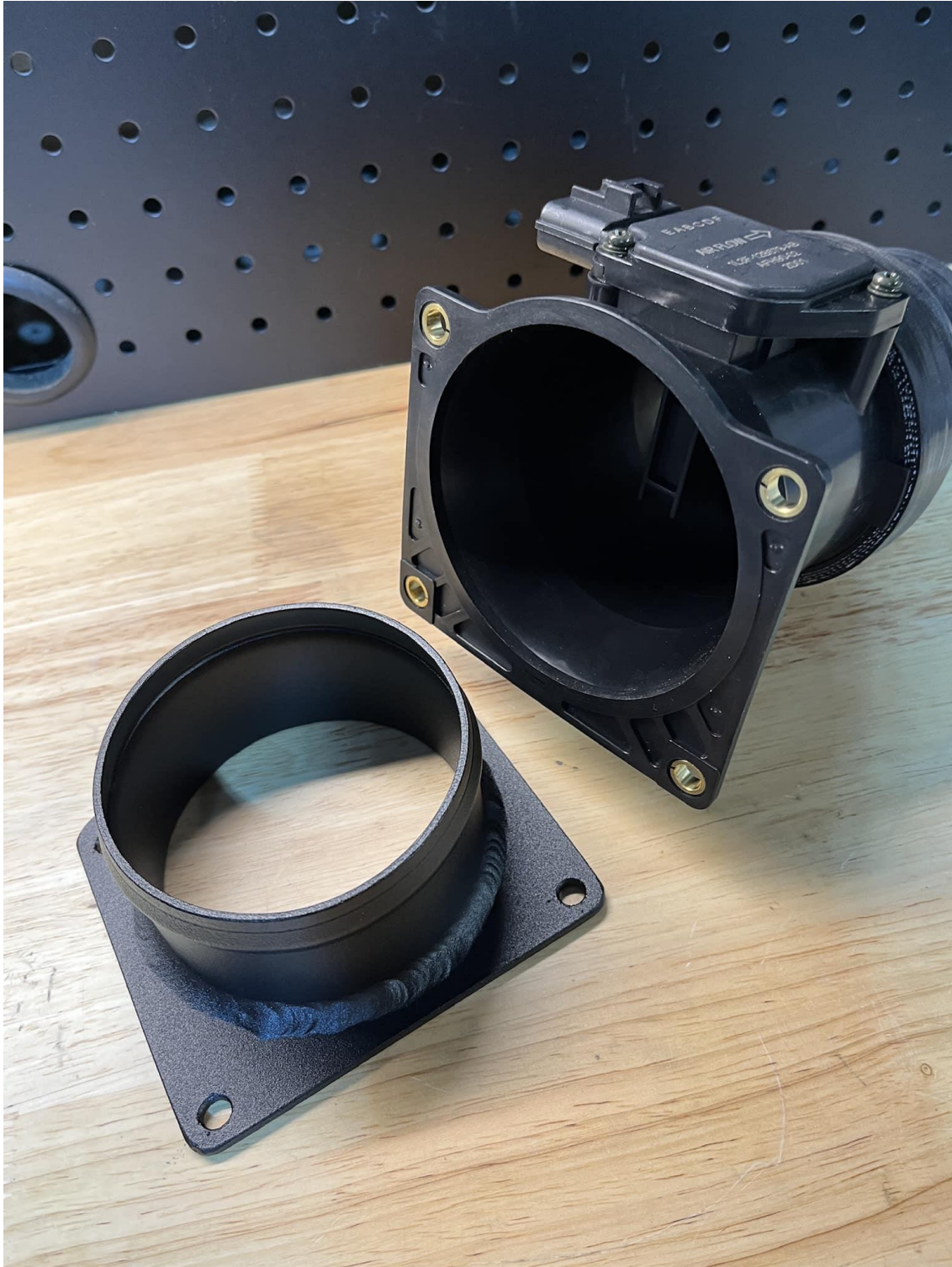
<http://www.promracing.com/pro-m-racing-mass-air-meters.html>

SCT 90mm MAF

90mm MAF by SCT -SCT BA2600 MAF



Raptor 90mm MAF and MAF adaptor (OPTIONAL)



Intake manifolds

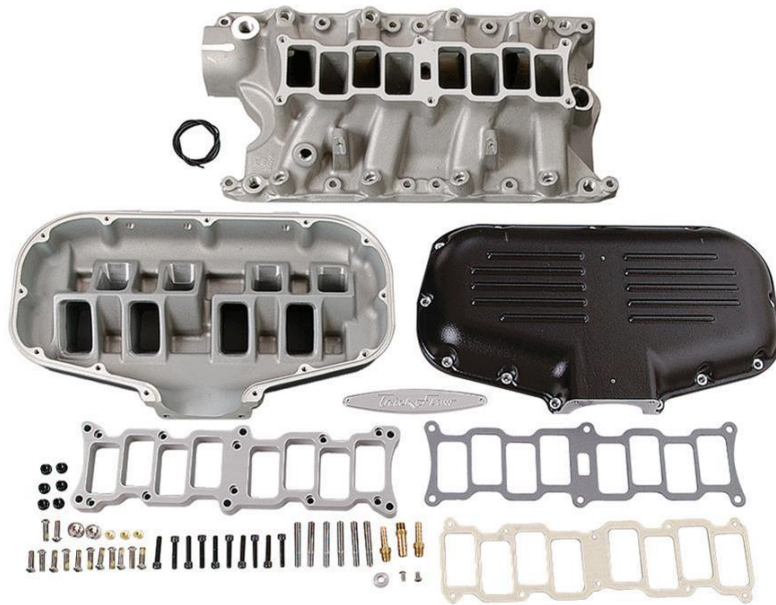
The 5.0 is very restricted in the intake manifold area, these manifolds as shown below will greatly boost power potential even if not intercooling

If you are considering intercooling we recommend using an intake manifold which switches the throttle body to the drivers side, it is then possible to intercool the Raptor kit on the 5.0 engine. Otherwise do not consider it. The intercooler piping should be 3.0" and dual 32mm BOV preset by Raptor SC MUST be used. The BBK manifolds are a buy and install solution to swapping the throttle body over

BBK



Trick flow BOX – R series



Edelbrock Victor 5.0 EFI Intake Manifolds 2945

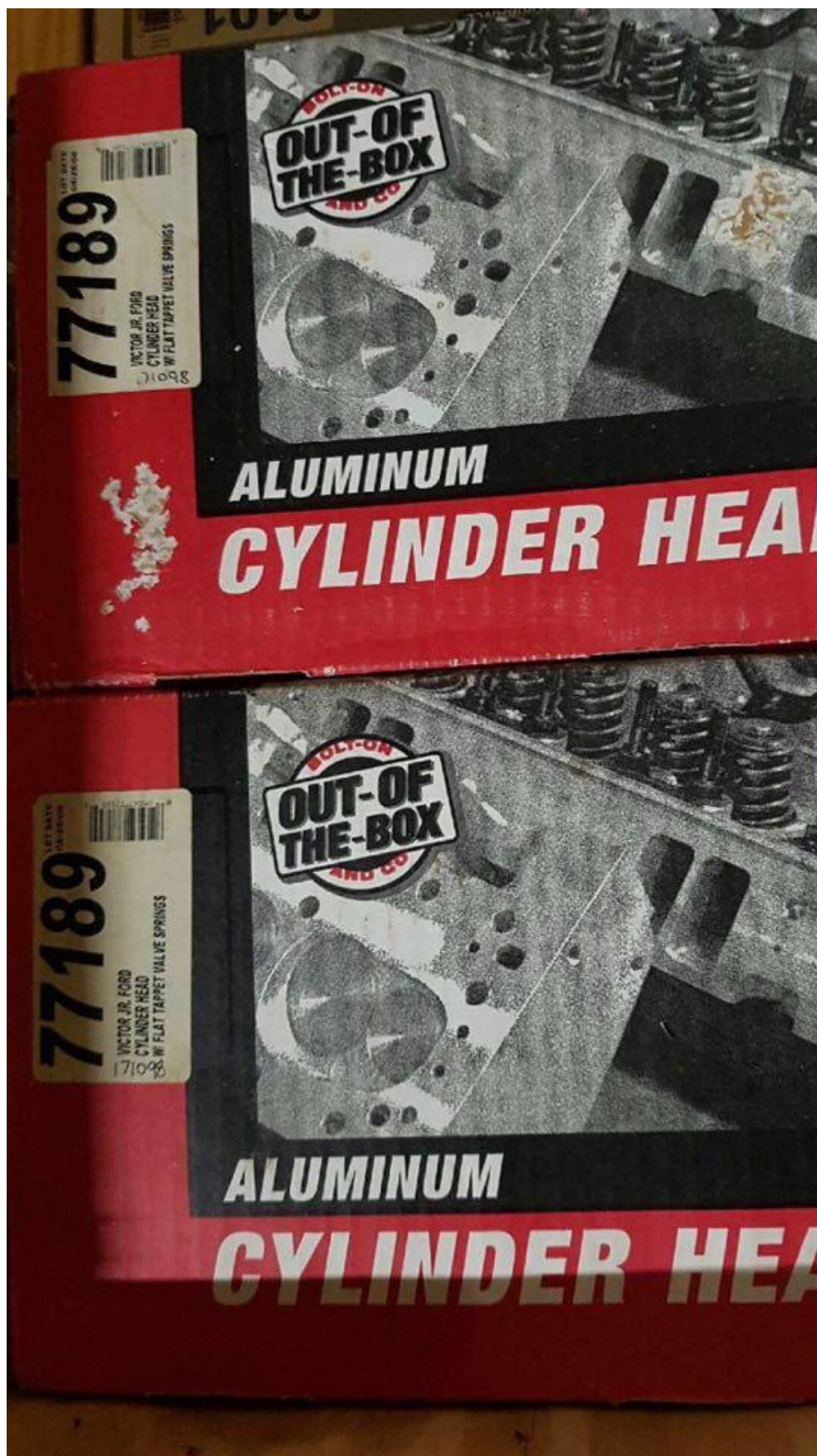


Camshaft suggestion – lopey idle

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Telstra Wi-Fi Call 1:07 pm 50%
Done RAPTIO.R.TXT
16 COLBERT RD CAMPBELLFIELD 3061
phone (03) 9357 0469 fax (03) 9357 0001
WWW.Crowcams.com.au

MODEL TYPE FORD 351 WINDSOR
-----CROW COMPUTER
CARD-----
| PART NUMBER 621330RH L/C 116 Date 1-MAY-18
|
| Cam type: Hydraulic Roller type Profile CUSTOM
GRIND |
|
-----|
| Advance Ground on Cam: 1 Lobe separation: 116
|
| .050 VALVE TIMING |
| Inlet opens: -5 BTDC Closes: 45 ABDC .050 Duration:
220 |
| Exhaust Opens: 51 BBDC Closes: -3 ATDC .050
Duration: 227 |
| ADVERTISED VALVE TIMING |
| Inlet opens: 23 BTDC Closes: 73 ABDC ADV Duration:
276 |
| Exhaust Opens: 79 BBDC Closes: 25 ATDC ADV
Duration: 283 |
| Inlet lobe lift at TDC on the over lap:.036 |
|
-----|
| Valve lift Inlet: .5578 Inlet Rocker Ratio: 1.70 |
| Valve lift Exhaust: .5680 Exhaust Rocker Ratio: 1.70
|
|
|
-----|
| RECOMENDED VALVE TRAIN COMPONENTS
|
| Valve Springs: Grind heights: Collar
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CYLINDER HEADS – good combo with above camshaft



TUNING

Tuning software etc (talk to clint at [Core Tuning](#)) - They don't advertise the AUS supported cars – but they have full licence for Australian E series and AU series V8s

Matthew Branch – BPR Racing, parts and tuning

People in Far North QLD – Townsville, Sasha Auton tunes all Fords

Link, active in PDF also – AUTON PERFORMANCE

[\(3\) Facebook](#)

Contacts for information relating to this FORD AU V8 kit

RAPTOR SUPERCHARGERS 0409 897 081 Call Raptor if there is problem with supplied tune, supercharger unit or anything else.

Liability

No liability whatsoever (including liability in negligence) is accepted by Raptor Superchargers for the fitment of incorrect tuning or incorrect fitment of kits and systems. The onus is clearly with the fitter to ensure the kit supplied is correct for the particular system. Any damage to parts or consequential damage or cost resulting from the fitment of the incorrect parts or incorrect fitment of parts is totally the responsibility of the fitter

Meeting legal requirement for on road use

The Raptor system is NOT sold for on road use, it is up to owner of vehicle whom after fitting the SC system to their car to organise for car to be engineered/inspected/approved by the relevant state authorities and receiving written approval before using vehicle ON ROAD.

