FALCON

QUICK

Is your Ford all show and no go? Are you tired of being blown to the weeds by Commodore Turbos? Do you look for somewhere to hide when a Brockmobile rumbles alongside at the lights?

Relax, help is at hand. Angus MacKenzie has discovered the home of Australia's fastest Falcons. And it's not Broadmeadows . . .

The blue car idles quietly up to the start line. It's hot and humid and the blue car's destination — another line 400 metres away — shimmers and dances in the heat haze.

Time for one last sweep of the instruments. Oil pressure, OK. Water temperature, OK. Exhaust temperature 400 degrees centigrade — that's OK, too. The 300 or so kilometres showing on the odo of the 240 km/h Stewart Warner speedo is a reminder that this engine is brand new and probably not yet at its best.

Light pressure on the accelerator pedal brings the tacho needle swinging around to 3500 rpm. The boost gauge indicates the Garrett Airesearch T04 turbo is pumping air into the combustion chambers at about 0.5 bar. A moment to steady everything, then . . .

Damn! The rear axle tramps furiously as almost 200 kW struggles to overcome the awesome grip of the 50 series unidirectional Goodyear Eagle tyres. Mental note: next time try to feed the power in a little more smoothly.

The tacho needle reaches the 4500 rpm red line almost immediately. It's time to grab second gear as the speedo needle sweeps past 60 km/h. Click, 3.7 seconds.

The tyres chirp briefly on the change into second. The acceleration continues, strongly and smoothly now that the 1400 kg car is underway. The speedo needle sweeps rapidly around the dial past 80 then 100 km/h. Click. 5.1 seconds. Click. 7.1 seconds.

Across the gate into third. Despite the heat, despite the untidy start, this is going to be a quick run. The speedo needle touches 120 km/h. Click. 9.5 seconds. And sweeps past 140 km/h soon after. Click. 13.6 seconds.

Fourth gear. The engine is still pulling strongly, but it's working hard now to overcome the effects of the blue car's substantial frontal area and the rate of acceleration has slowed marginally. The white line marking the end of the 400 metre sprint flashes into view. Click. 15.0 seconds.

Yes, Ford performance *is* alive and well in 1987 — you've just got to know where to find it . . .

More than 15 years after the immortal GTHO it's hard to believe that Ford Australia started the Oz musclecar legend. Talk to the men from Ford these days and they'll smile and point to the company's undisputed market leadership, booming sales and record profits. Ask them, as Australia's motoring writers have at every new Falcon launch since 1978, when they're going to re-introduce the GT, however, and they'll cough and mumble and change the subject to something more exciting, like the Falcon fleet sales program.

Like all other carmakers, Ford is in business to make money. Black ink on the balance sheet is the only bottom line that matters. But you get the impression that all those Falcons rolling relentlessly off the lines at Broadmeadows could just as easily be lawnmowers, or washing machines, or microwave ovens. Where's the flair? Where's the passion? Where's the excitement? Something special died at Ford sometime between the HO and the last 5.8 litre XE ESP four speed.

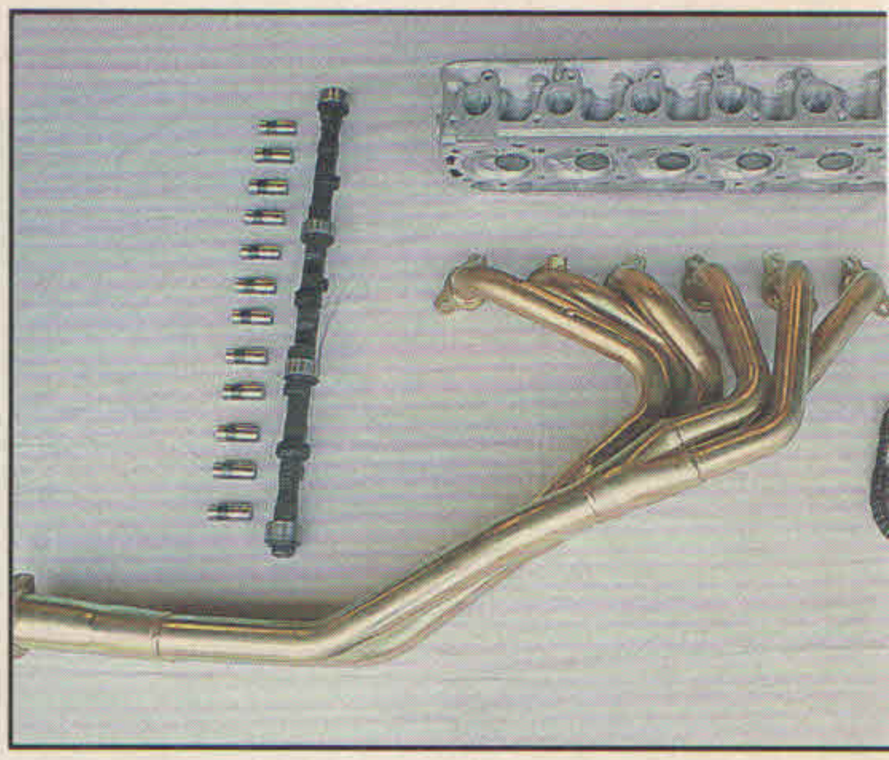
If you want an off-the-shelf Aussie musclecar these days, the General's store is the only place in town to shop. There you'll find Commodores with 150 kW turbo engines capable of turning standing 400 metre times of the order of 15.2 seconds. And just down the road at HDT Special Vehicles Peter Brock's team will build you a 4.9 litre V8 that goes as hard as it looks.

Against this all Ford offers is the S-Pack Falcon. But you can't just order any S-Pack — you have to pick your way through Ford's options book to build yourself a good one. According to Ford, 'S-Pack' is simply a $760 cosmetic option available on the $16,572 Falcon GL five speed. For that you get the stripes, badges, jazzy interior trim, styled steel wheels and a tacho. To make it go as good as it looks you have to order the EFI engine ($1290 plus $40 for the mandatory 80 litre long range fuel tank) and the limited slip differential ($300). To make it handle you need to buy the Sports Handling Suspension pack (which at $183 is a bargain, given that it includes four Bilstein gas dampers), and while you're at it you may as well throw in factory air conditioning ($1268) and alloy wheels ($348).

Just on $20,000, then, buys you a reasonably well equipped Falcon. But as a performance car it's . . . well, a little off the pace. The standing 400 metre time of 16.8 seconds, while not bad for a normally aspirated six cylinder sedan, doesn't exactly measure up to the GT legend. If you want a Falcon that does, you'll have to head north — to Mike Vine Turbochargers in Brisbane, to be precise.

Little more than a line of slightly ramshackle sheds tucked in close behind the Vine family home, Mike Vine Turbochargers looks an unlikely breeding ground for some of Australia's fastest Fords. It's a small operation, employing just six people. But that's the way sandy-haired Queenslander Mike Vine likes it — he likes to give his customers personalised attention.

MVT doesn't just build fast Fords — it does steady business bolting blowers



ULP PERFORMANCE KIT
- heavy duty double row cam chain
- reground camshaft
- Sealed Power cam followers
- ported, polished cylinder head
- inlet, exhaust ports matched to head
- extractors
- low final drive ratio

MVT FALCON GRAND PRIX

0-60 km/h 3.7 secs
0-80 km/h 5.1 secs
0-100 km/h 7.1 secs
0-120 km/h 9.5 secs
0-140 km/h 13.6 secs
Standing 400m 15.0 secs

onto diesel Land Cruisers and other 4WDs, plus a variety of cars, including Commodores and Lasers. But the art of making Falcons go has become Vine's speciality.

MVT offers several integrated Falcon performance packages. These range from Stage One and Two turbocharger installations to suit leaded XE and XF carburettor and EFI engines, to a package designed to increase output of the normally aspirated ULP 4.1 EFI, to the company's most ambitious project yet — remanufactured XE Grand Prix Turbos.

The Stage One and Two turbo conversions (see panel for full details and prices) are well thought out, realistic packages which go beyond simply bolting on a turbocharger. All Vine Falcon engines, for example, are fitted with a stronger dual row cam chain. The standard item, says Vine, is little more than junk and will stretch badly from as little as 20,000 km, effectively retarding the valve timing and thus robbing the engine of torque. Automatic cars have their transmissions removed and sent to Western Automatics in Melbourne where they are beefed up to handle the extra grunt. A transmission oil cooler is fitted as standard equipment.

Fuel injected cars feature computer-controlled micro-fuellers — two extra injectors to pump extra fuel into the combustion chambers via the inlet manifold when the turbocharger is pumping. The XF EFI engine, with its more sophisticated EEC4 engine management system, features micro-fuellers with an electronic boost retard facility, which retards the ignition timing accurately as the turbocharger comes onto full boost.

All Vine turbo systems are draw-through — the turbocharger draws its air supply through the device controlling the fuel/air mixture. On carbed engines that's a 47.7 mm Stromberg CD (two in the case of a Stage Two conversion). With EFI engines, of course, the fuel is directly injected into the combustion chambers, but Vine achieves a similar draw-through effect by placing the throttle plate upstream of the turbocharger.

Both the Stage One and Two conversions feature water injection — water is still the best intercooler, says Vine — but the system is typically user-friendly. MVT fits a non-venting five litre water tank under the bonnet which only has to be filled whenever the car is refuelled.

The main difference between the Stage One and Two conversions is one of boost pressure. A Stage One engine runs up to 0.6 bar boost and delivers 180 to 200 kW, depending on whether the engine is fuel injected or not. A Stage Two engine is somewhat more radical, running up to 1.1 bar boost, but the power output leaps to an impressive 240 to 260 kW.

We were able to directly compare the relative effectiveness of the two conversion levels at Surfers Paradise International Raceway, as MVT put a pair of XE autos at our disposal.

The Stage One car, MVT's own silver EFI Fairmont, ran consistent 15.2s over the 400m and accelerated from 60 to 100 km/h in 4.8 seconds, and from 80 to 120 km/h in 5.5 seconds. Compare those figures with the 17.7 400m time quoted for the standard XE EFI auto in the July 1983 issue of Motor Manual.

The Stage Two car was a carbed version, with twin Strombergs under the bonnet. It wasn't as easy to drive as the Stage One car, mainly because the twin throttle cables and the cable operated transmission kickdown control made the throttle impossibly stiff and therefore difficult to operate smoothly. Wheelspin was the other problem — our first run had the car smoking the bags all the way through first and into second gear, much to the amusement of owner Richard Talbot. Our best run, though, was spectacularly quick, stopping the clocks at 14.2 seconds. Acceleration in the 60 to 100 km/h and 80 to 120 km/h increments was equally fast at 4.2 and 4.4 seconds respectively.

The power delivery in both cars was impressive — smooth (as smooth as Ford's clunky, slow revving 4.1 six could ever be) and progressive. Automatic transmissions and turbo engines work particularly well together, as there's no loss of boost during the gearchanges, but even in the manual car we drove later turbo lag was non-existent. That's because Vine sets the turbos to start boosting from as low as 1400 rpm for optimum response in traffic. "I wanted the cars to respond instantly at 60 km/h in top gear, so that meant I had to have effective boost happening at 50 km/h. With the gearing these cars use, that means an engine speed of 1400 rpm."

Vine also believes in improving cruising ability — hence the reground cam fitted to both Stage One and Two engines which gives another surge of power at 2500 rpm. Both packages, therefore, are equally practical for day to day use.

MVT has found the launch of the Commodore Turbo has slowed enquiries for ULP Falcon Turbos. Undeterred, the company has developed a normally aspirated performance package for the ULP EFI engine. This comprises a reground camshaft, uprated cam followers, a ported and polished cylinder head and extractors. The package includes a lower (numerically higher diff ratio), and suspension modifications based on the Bilstein-equipped factory Sports Handling pack with additional tweaks to ride height and the front geometry.

Against the turbos, this is a Falcon performance car of quite modest abilities, although our best standing 400m run of 16.4 seconds proved more than respectable when compared with the standard S-Pack. The MVT ULP Falcon isn't a getaway car, it's a tourer, says Vine, with its maximum torque available at highway cruising speeds.

Thanks to the reground camshaft the torque peak has moved from 3000 to 3500 rpm and the engine delivers good power from 3000 to 4500 rpm.

On the road the MVT ULP XF feels a more balanced, responsive car than the S-Pack. The extra top-end power is handy for passing manoeuvres, yet the low-end grunt typical of the 4.1 EFI seems unaffected. Around town the car is as tractable as a showroom stock fuel-injected Falcon.

As good as the MVT mods are, however, they don't make a silk purse out of a sow's ear. If you've just stepped out of a VL Commodore you'll find the engine clunky and harsh and short of breath if the tacho needle dips past 4500 rpm. But at least it handles reasonably — the MVT suspension tweaks seem well worth while, with a slightly firmer ride being the trade-off for dramatically improved steering response and better rear axle control. And our all-orange test car, with its strikingly USC body kit, 15 inch alloy wheels and 60 series Yokohama 352 tyres, certainly looked the part, although not as much, admittedly, as MVT's most ambitious project yet, the Falcon Grand Prix Turbo.

PERFORMANCE

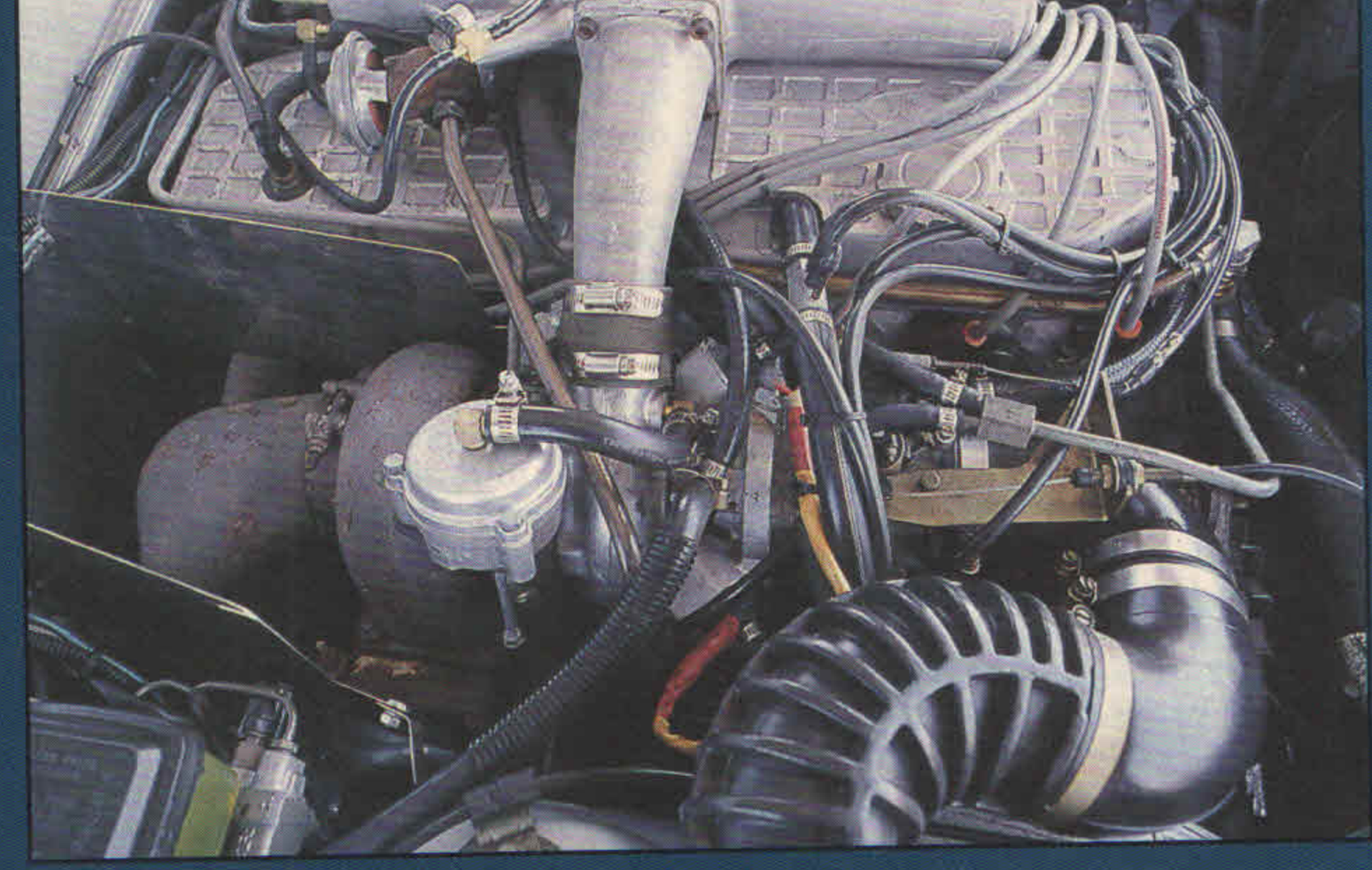
MVT FALCON GRAND PRIX
0-60 km/h 3.7 secs
0-80 km/h 5.1 secs
0-100 km/h 7.1 secs
0-120 km/h 9.5 secs
0-140 km/h 13.6 secs
Standing 400m 15.0 secs

MVT STAGE ONE TURBO (AUTO)
0-60 km/h 4.8 secs
0-80 km/h 5.3 secs
0-100 km/h 7.3 secs
0-120 km/h 9.8 secs
0-140 km/h 13.0 secs
Standing 400m 15.2 secs

MVT STAGE TWO TURBO (AUTO)
0-60 km/h 3.1 secs
0-80 km/h 4.5 secs
0-100 km/h 6.2 secs
0-120 km/h 8.4 secs
0-140 km/h 11.1 secs
Standing 400m 14.2 secs

MVT ULP PERFORMANCE PACK
0-60 km/h 4.8 secs
0-80 km/h 6.0 secs
0-100 km/h 9.3 secs
0-120 km/h 14.1 secs
Standing 400m 16.4 secs

FALCON S-PACK EFI
0-60 km/h 4.2 secs
0-80 km/h 6.8 secs
0-100 km/h 10.1 secs
0-120 km/h 14.5 secs
Standing 400m 16.9 secs



MVT STAGE ONE TURBO

0-60 km/h 4.8 secs
0-80 km/h 5.3 secs
0-100 km/h 7.3 secs
0-120 km/h 9.8 secs
0-140 km/h 13.0 secs
Standing 400m 15.2 secs

SPECIFICATIONS

STAGE ONE TURBO

- Garrett T04 single entry water cooled turbocharger
- 42mm wastegate
- 47.7mm Stromberg CD carburettor (carbed engines only — EFI engines are fitted with microfueller injectors)
- heavy duty double row cam chain
- Sealed Power cam followers
- extended length pushrods
- heavy duty valve springs
- reground camshaft
- large capacity fuel flow oil cooler
- high volume fuel system
- blueprinted cylinder head
- ports matched to inlet and exhaust
- 77mm exhaust system
- stainless steel heatshields
- bonnet vents
- five litre water injection tank
- water injection pilot light
- heavy duty balanced clutch
- large capacity radiator (if air conditioning fitted)

If Automatic —

- different exhaust housing on turbo
- transmission uprated and oil cooler fitted

If you reckon you've heard that name before, you're right — the big bright blue XE was the centrepiece of an abortive attempt to launch a line of modified Falcon road cars bearing Dick Johnson's name back in 1983.

MVT's Grand Prix Turbo is similar to those original cars in name and color only — there is no connection with the original builders of the car, nor with Dick Johnson. MVT plans to sell the Grand Prix Turbo as a complete car, with full new car warranty. The key word is 'remanufactured' — despite the five year old sheet metal, the Grand Prix Turbo is, to all intents and purposes, a brand new car, says Vine.

The Grand Prix starts with a straight, rust free XE Falcon — any model will do. The car is stripped and completely repainted True Dick Johnson Blue and all working parts, such as door internals, restored. The wheelarches are modified to take wider rubber and a Grand Prix cosmetic kit, which includes front and rear spoilers and guard flares, fitted.

Inside a sports pack dash is installed, if necessary, and a 240 km/h Stewart Warner speedo fitted. A small binnacle at the centre of the dash houses turbo boost, exhaust and oil temperature gauges. Scheel seats are fitted and the interior completely retrimmed in grey and black velour. Standard equipment includes air conditioning and an up-market four speaker AM/FM sound system, the final specification of which has yet to be determined.

The standard engine is replaced with a Stage One MVT carburettor 4.1 litre powerplant. You can order an EFI version if you want, but Mike Vine sees little point: "Why pay more than $2000 for a fuel/air mixing device when the $140 Stromberg is simple, easier and virtually as efficient?"

The engine is bolted to a Toyota Supra five speed manual transmission and drives through a 2.9:1 limited slip differential. Brakes are disc all round, naturally, and the suspension receives similar modifications to those of MVT's normally aspirated ULP XF. An XF power steering pump is also fitted to improve reliability and steering response.

Wide alloy wheels (Enkei on the prototype car we drove, but probably Simmons or Neale when production starts ". . . because I want to support Australian companies . . .") and Goodyear's impressive German-made unidirectional tyres, 225/50 VR15 and 235/55 VR 15 rear, complete the package.

The price? About $26,000.

That's a lot of money for something that looks like a five year old motor car, no matter how well it's put together. But the reason MVT hasn't gone for an XF version is that XEs are cheaper to buy initially — the $26,000 price tag includes the cost of the base car — and that the XE-based Grand Prix cosmetic kit already exists. Besides which, Mike Vine thinks the XE looks better, more masculine, than the rounded XF. But he doesn't discount the possibility of building an XF version in the future . . .

We drove four different MVT Falcons in all. And the Grand Prix Turbo was definitely the pick of the bunch. The standing 400 metres took but 15 seconds to dispatch, yet the car proved tractable and flexible through the Gold Coast traffic. Around the fast and sweeping Surfers Paradise track the handling felt stable and confidence inspiring. The big Falcon lacked the precision of a Brock Commodore, but gripped well and, once committed, would hold its line through corners. Ultimately the front would wash wide of the apex, but the onset was gradual and easily detected from the driver's seat. Correction was simply a matter of lifting off the throttle and allowing the nose to tuck back where it belonged.

Away from the artificial constraints of the racetrack, however, the Grand Prix really impressed. Again the benchmark Brock Commodore would have handled the rough, twisting back roads in the hills behind Surfers with more poise and precision, but the Falcon proved surprisingly agile under the circumstances. It stopped and turned into corners quite well, and the slick-shifting five speed gearbox helped make the best of the engine's impressive power characteristics.

And throughout it all the needle on the exhaust temperature sensor never rose above a relatively mild 600 degrees centigrade. Overall the Grand Prix Turbo came cross as a well conceived and well executed package. Only the chintzy decals spoiled the car's otherwise purposeful air.

It's good, but is any five year old Falcon worth $26,000? If you want to drive a Brock-hunting Ford, there's only one answer to that . . .

The Aftermarket Future

Mike Vine has been building turborcars for more than 12 years now. In that time he's witnessed the boom of the aftermarket turbo industry. The bust, he believes, is just around the corner.

Not that long ago there were dozens of 'turbo specialists' plying their trade on the fringes of the Australian performance car scene. Within a few years, predicts Vine, only four or five will still be in business.

The rise of the factory turbocar has undoubtedly impacted on the aftermarket industry. Barely five years ago the only factory turbos you could buy downunder were Porsche's awesome 930 Turbo and Saab's idiosyncratic 900 Turbo.

That's all changed. Today there are more than 20 factory turbos on the Australian market, ranging from the $138,000 Lotus Esprit, to Daihatsu's cheeky little $14,377 Charade. And five years ago, who would have predicted that GM-H would offer turbo Commodores . . .

Mike Vine believes the increase in the number of off-the-shelf turbocars will significantly alter, but not destroy, the aftermarket turbo industry.

Its future, says Vine, lies in its being able to adapt from solely supplying and developing aftermarket turbo kits and diversify into maintainance of original equipment turbochargers.

"The thing that annoys me about original equipment turbos is that the turbocharger manufacturers insist on supplying whole replacement units when sometimes all that's needed is a simple $25 seal.

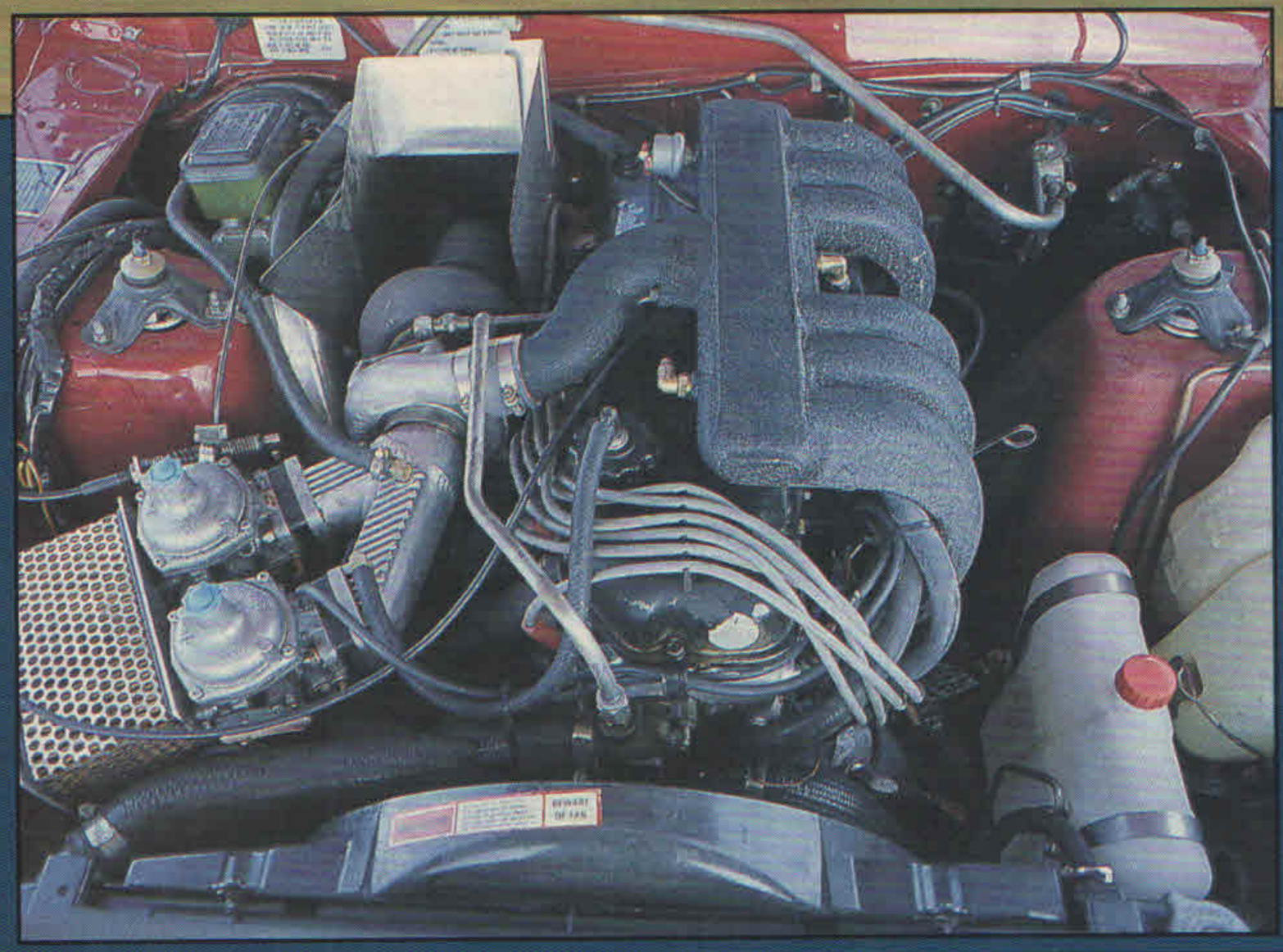
"Because we build our own turbos from bits we can, for example, integrate Garrett components into an IHI and save the customer money. The hidden costs of original equipment turbochargers hurt the second and third owners of these cars in particular."

The development of 'power-up' conversions to further boost the output of factory turbocars is another area of great potential for the industry, according to Vine. A recently completed Vine conversion, for example, resulted in an 80 percent power increase for one customer's Nissan Pulsar ET . . .

Vine firmly believes factory turbos are less of a threat to the future of the aftermarket industry than some of the people working in it. Poor operators, he says, invariably burn the market — a customer who's had a bad experience with a turbo is less likely to come back for more.

So, if you're contemplating turboing your car, don't just take the industry's claims at face value, says Vine. Ask around.

"Get references on previous jobs to the same type of car. Speak to someone who's had a turbocar for six to 12 months. They'll tell you the truth."



MVT STAGE TWO TURBO

0-60 km/h 3.1 secs
0-80 km/h 4.5 secs
0-100 km/h 6.2 secs
0-120 km/h 8.4 secs
0-140 km/h 11.1 secs
Standing 400m 14.2 secs

STAGE TWO TURBO
As per Stage One, except for —
- twin Stromberg CD carburettors (for carbed engine only)
- full port and polish of cylinder head
- extra heavy duty clutch plate

PRICES

Stage One Turbo Carburettor
- manual $3900
- automatic $5200

Stage Two Turbo Carburettor
- manual $5000
- automatic $6200

Stage One Turbo EFI
- manual $4700
- automatic $5900

Stage Two Turbo EFI
- manual $5900
- automatic $7100

ULP Performance Kit
- inc final drive change $2900