



melett

Melett Newsletter issue five

QUALITY REPLACEMENT TURBOCHARGER PARTS

We are lucky to be working in one of the few industry sectors where the word 'growth' is on everyone's lips, rather than 'recession'. Despite the tough economic climate, the last few years has seen unprecedented growth for both Melett and the turbocharger aftermarket.

INDUSTRY GROWTH

The growth shouldn't be a surprise. The aftermarket has the benefit of knowing the OEM sales year on year. Therefore, using the OEM sales figures we can accurately calculate the accumulative growth in the aftermarket by shifting OEM sales figures forward by 5 years. This is illustrated in the two graphs:

The first shows the history and growth of the turbocharger market (OE manufacture) between 1990 and 2008. It is easy to see how the production and use of turbochargers has evolved since the introduction of variable vane designs. Whilst there will be a large dip for 2009/10 sales, the growth trend is still set to continue as many gasoline applications are also

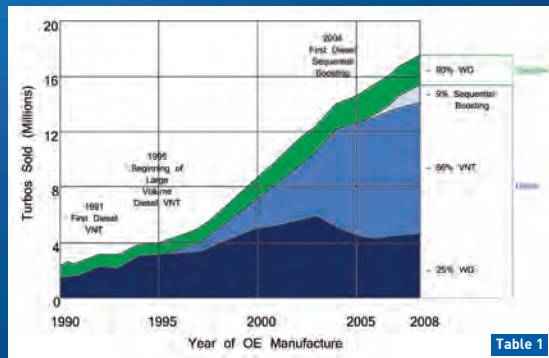
the growth trend is still set to continue

becoming turbocharged to meet the strict EURO 6 emissions standard in 2014.

The second graph shows the same growth but projected forward by 5 years to reflect the impact that OEM growth has on the aftermarket. Importantly, the aftermarket is accumulative. Each year, the new volume arrives in the aftermarket and the oldest turbos leave so the aftermarket size is represented by the total area under the graph.

In line with the growth over the past decade, Melett has grown to become a well recognised supplier of parts in the aftermarket. To operate effectively, the professional aftermarket needs OEM quality parts. We

believe our success has been our commitment to maintaining this level of quality whilst rapidly growing the range of parts to meet demand. Melett is also committed to promoting 'best practice' principles relating to the use of our components and providing information and advice to the growing network of professional turbo remanufacturing company's worldwide. *As your own company grows, you can be confident that Melett is here to support you.*



Brand new CHRA production facility



Why quality really does matter



Melett Speak at APRA Symposium



New Product Releases



The faces behind the voices

Melett - Helping the Reconditioning Industry to keep Reconditioning

Whats New

Melett has developed its very own CHRA 'build & balance' facility.



For some time, our customers have told us that there is a lack of good quality old core in the market making it difficult to repair a turbo without a full CHRA. Whilst parts are available, for many customers, the cost involved of having the necessary high speed VSR balancing facility is prohibitive. Therefore, in direct response to this, Melett has developed its very own CHRA 'build & balance' facility.

In the past few years we have invested heavily in the latest balancing machine technology to enable us to produce quality CHRA. We have employed a number of workshop technicians who have over 30 years experience building and balancing turbos for Cummins/Holset (our local Huddersfield based OEM). All CHRA are assembled and VSR balanced in a brand new production facility at our premises in Huddersfield, England.

To enable faster VSR balancing, we have made many improvements to the individual components by reducing residual unbalance in shaft and compressor wheels. We have even re-tooled some castings to improve the casting precision allowing better products. This higher precision balancing aids faster balance assembly for customers who have their own fatalities. If you have your own VSR facilities, all CHRA part numbers

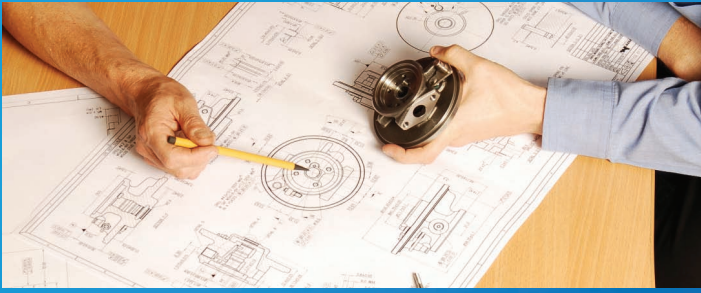
are available in a kit format (you build and balance) at lower prices.



We now produce quality CHRA for GT/VNT15-25, KP35, K03/4, TD04, TF035 and CT26. Throughout 2010, we will add many new GT/VNT models as well as RHF4, BV39, TD02/3 and plan to increase capacity of the production facility. Each CHRA comes with a balancing graph and quality certification giving you the confidence to carry out a quality repair.

Please keep an eye out on our website for the latest models to be added to our portfolio.





Why quality matters

At Melett we are passionate about quality. In fact, our reputation for quality means that less scrupulous companies, based in China, are trying to pass off their products as the genuine Melett article. Whilst in some ways we are flattered by their attention, we are concerned that some customers are being misled about what they are actually buying.

Some companies have been copying our logo, part number style and tooling identification in an attempt to authenticate their counterfeit goods. It now seems that every manufacturer in China 'makes parts for Melett'!

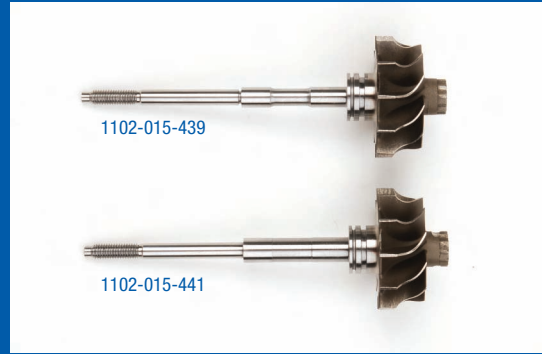
Customers should be cautious. Those who have been caught out, tell us that there is a significant discrepancy in quality. Whilst the turbos may appear to build and balance without any problem, after around 1 or 2 months, intermittent failures have appeared. As a result warranty claims have increased dramatically damaging hard earned reputation and creating problems with customers.

To help you, here are a few 'Melett' facts:

- **over 80% of the part numbers in our range are produced for Melett by manufacturers in the UK, Western EU and the USA – the majority of these are TS16949 certified facilities;**
- **parts that are produced for us in China undergo independent detailed inspection (in accordance with our quality control plan) before they are shipped to the UK;**
- **Melett Quality Engineers regularly visit and perform audit inspections at the manufacturers assisting with continuous improvement programmes.**
- **all China imported parts undergo a second inspection upon arrival in the UK to ensure materials, dimension and balance are all to specification.**



At Melett, not only are we passionate about quality, we are also passionate about the after-sales service that we offer. If you need advice about repair equipment or best practice for repair, please contact our technical support manager, Chris Littlewood who will be happy to help you. This is a free service available to all Melett customers.



TECHNICAL FOCUS

Turbo failure on 753420 / 49173-07506

One turbo application which is hot in the aftermarket is the 753420-0002/3/5 and 49173-07506 fitted to the Peugeot/Citroen and Ford 1.6L DV6TED4 engine. Customers are experiencing a very high return of original new or reconditioned turbochargers which are creating a high level of warranty issues.

The problems are being created by a high carbon build up in the engine where the oil level is allowed to run low. This leads to poor oil quality and low oil flow which in turn leads to turbo failure. The carbon build up is very difficult to remove from the engine and involves a complete clean up of the oil pump, oil sump and a change of turbo oil feed pipe. Many vehicle owners are reluctant to pay for this extra work on top of the cost of a new turbo and the result is a second failed turbo. It is extremely important to make your customer aware of this prior to selling or repairing the turbo to avoid warranty claims. Many customers are supplying an oil feed pipe and information leaflet with each turbo to try and tackle the problem.

For the 753420 turbo, to help make the turbo more robust, it is possible to change the shaft and wheel and thrust configuration from small ID journal bearing (1102-015-103) and small pad thrust bearing (1102-015-770) to standard ID journal bearing (1102-015-101) and large pad thrust bearing (1102-015-780) by using Melett shaft 1102-015-441. This shaft is actually from the 740661-2/3 Hyundai application. The wheel head and profile are identical to the 753420 wheel but it is fitted with a standard GT15 straight shaft allowing standard GT15 repair parts to be used.

All piece parts are now available from Melett for the 753420 CHRA and the complete balanced CHRA will also be available in the very near future. Melett CHRA will be produced with the 1102-015-441 shaft and standard GT15 bearings. Repair kits for the TD02 turbo are available with all other parts in development.

If you have any further questions or concerns about this issue, please contact our Technical Manager, Chris Littlewood.

MELETT PEOPLE

The faces behind the voices

There is a new arrival on the way for our sales team, headed by Claude Entressengle. It is not another recruit, but Maryna Henderson, who speaks Russian and Spanish, is expecting her second child in August. Maryna is now on maternity leave and it is anticipated that she will return to work on 1st February 2011 – for a rest! We wish Maryna and her family all the very best.

At Melett we are fortunate enough to have a number of multi-lingual employees. Claude, who is native French, also speaks Spanish and a little Italian. Additionally, we have Marta Zander who joined our sales department in July last year and speaks fluent Russian, Polish and German. She also has a decent grasp of French although, by her own admission, understands more that she can speak!



Claude Entressengle



Maryna Henderson



Marta Zander

APRA INVITE MELETT

In April this year, Melett's M.D., Ian Warhurst was invited by APRA to speak at their 2010 European Symposium in Budapest, Hungary. The exhibition and symposium attracted more than 350 professionals of the remanufacturing business from around



the world. The purpose of the event was to promote the exchange of knowledge and ideas, as well as provide an opportunity for selling and purchasing between companies. Ian was one of 7 guest speakers and used the opportunity to speak about, "Supplying components and knowhow to remanufacture turbochargers." He focussed on the exceptional growth seen in the global market and the need for high quality replacement parts manufacturing to satisfy independent aftermarket requirements as well as promoting best practise and quality repairs.



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PRODUCT RELEASES

Melett Part No.	Replaces
1102-320-301 GTB1752V Seal Plate 'Deep Superback' Fit Turbos 752990-6/ 765176-1	730078-0003
1102-320-302 GTB2260V Seal Plate 'Deep Superback' Fit Turbo 753959-5	730078-0001
1303-035-901 Core Assembly (Balanced) KP35 Fit Turbos 5435-970-0000/2/8	5435-710-0500
1303-035-902 Core Assembly (Balanced) KP35 Fit Turbos 5435-970-0005/6/18/19	5435-710-0503
1102-023-402 GT2359V Compressor Wheel Fit Turbos 711017-1-3/ 724483-3/5/8/9/ 729355-1/ 734899-1/ 743115-1 & 750001-1	702549-0008/14
1102-322-300 GT2359V Seal Plate 'Deep Superback' Fit Turbos 711017-1-3/ 7348991	434822-0006/ 703682-0052
1102-322-301 GT2252V Seal Plate 'Deep Superback'	434820-0003/703682-0043
1301-026-435 Shaft and Wheel K26	5326-120-5002
1301-026-436 Shaft and Wheel K26	5326-120-5001
1102-015-918 Core Assembly (Balanced) GT2052V Fit Turbos 454135-5/8-10	728923-2 703891-20/117
1401-635-436 Shaft & Wheel TF035HM Fit Turbos 49135-03410/11	Not Available
1102-017-933 Nozzle Ring Assembly (inc. nozzle ring, unison ring, pins and rollers) Fit VW/Audi/ Mercedes/ BMW/ Volvo	Not Known
1102-015-390 Actuator position sensor (Electronic) Fit turbo 756047-4 / 760774-2 / 714306-6	Not Known
1102-022-437 GT2259S Shaft and Wheel. Ind: 50.3mm Exd: 42.7mm Tip: 9mm Fit Turbos 702989-3 Iveco Euro Cargo	434716-0001
1153-035-435 HX35 Shaft and Wheel. Ind: 70mm Exd: 60mm Tip: 10.9mm Iveco/ Cummins	3595832
1301-028-435 K28 Shaft and Wheel. Ind: 81mm Exd: 72mm Tip: 14.3mm. Fit Turbos 5328-970-6400-18/ 5328-970-6490/ 5328-970-6711-20/ 5328-970-7067. Daewoo/ Deutz/ DMS/ Fincantieri/ Iveco/ Iveco-Aifo City Bus/ MAN/ Raba/ Volvo Penta	5328-120-5001
1303-039-450 Bearing Housing BV39. Fit Turbos 5439-970-0015/20/22/23/47. Audi A2/A3 TDI, Ford Galaxy TDI, Seat Altea/Leon/Toledo/ Alhambra TDI, Skoda Octavia TDI, Volkswagen Transporter/ Golf/ Polo/ Caddy/ Sharan TDI	5439-150-4013
1102-032-435 GT32 Shaft and Wheel. Ind: 64mm Exd: 56.4mm Tip: 10mm. Fit Turbos 452176-2/ 452221-1/ 452234-3 Volvo/ Perkins	434444-0003
1450-040-437 RHF4 Shaft and Wheel. Ind: 44.1mm Exd: 40mm Tip: 8.1mm. Fit Turbos W14 Mercedes Benz Vito	Not Known
1302-003-411 K04 Compressor Wheel. Ind: 41.9mm Exd: 56mm Tip: 5.9mm Fit Turbos 5304-970-0020/22/23/28/29 Audi-TT/ S3/ RS6	5303-123-2015 5303-123-2203

New Popular VNT Bearing Housings

1102-017-454 Bearing Housing GT15V Fit Turbos 753420 Citroen C3/C5/ Picasso 1.6DI D Peugeot 1.6L DI D/ Ford 1.6L DI D	Not Known
1102-017-455 Bearing Housing GT17V Fit Turbos 713517-8-16 Ford Focus TDCi 100&115PS 1.8L	722282-0078
1102-017-456 Bearing Housing GT25 Fit Turbos 454191-6-13/15 BMW 530D & 730D 3.0L	722282-0004
1102-017-457 Bearing Housing GT1749V Fit Turbos 750431 BMW 320d & 520d 2.0L	Not Known
1102-017-458 Bearing Housing GT1749V/ GT1749V(S2)/ GT1849V Fit Turbos 454232/ 701855/ 709835/ 709836/ 712078/ 712968/ 713673/ 716213/ 716216/ 716860/ 717625/ 717626/ 720855/ 721021/ 722730/ 726698 Audi / Ford Galaxy / Mercedes / Opel / Saab / Seat / Skoda / VW etc	722282-0013 703882-0002
1102-017-459 Bearing Housing GT1749V Fits Turbos 708366-1-3 Land Rover Freelander	706288-0002

The 1102-017-457 easily identified as a genuine Melett product.



ISO 9001 Registered
Certificate No. FS 535592

