



Quality Replacement Turbocharger Parts

ISSUE THREE

Melett Wins Queens Award for Enterprise



WINNERS OF THE QUEEN'S AWARDS FOR ENTERPRISE



Photos courtesy of BCA Films

Melett were very proud to receive the prestigious Queens Award for Enterprise 2006 for sustained export growth over the past 3 years. "It was a great honour" explains Ian Warhurst, Managing Director. "Everybody has worked hard to make Melett what it is today and we were all very pleased to receive the recognition. I didn't realise at the time that 3 of us would get to meet the Queen at Buckingham Palace – that was a unique day out!

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New Sales Staff Russian speaking Maryna Henderson



New Repair Kits and Parts

Melett moves to new, larger premises

July was a very busy month as we packed the entire company into a very large number of boxes and moved to our new premises in Clayton West, Huddersfield. The new premises have been significantly modified with new offices, mezzanine floor and extra racking allowing lots of room for growth. "We were under pressure at the old premises because of the large number of new parts coming through development" says Adrian, Despatch Manager – "realistically, we ran out of space in March. It's great to now have room to operate more efficiently knowing that there is plenty of space for future development"

Please make sure all your contact details are now updated!



Turbo Build Sheet Details

Turbo OE No:
Vehicle OE No:
Turbo Model:
Fitted To Make:
Fitted To Model:
CHRA:
OE Turbine Wheel No:

New Website Build Sheet Service

'Melett - Helping the Reconditioning Industry to keep Reconditioning'

Shaft and Wheel Material issues

'Customers often ask us what material is used for the turbine wheel head on our shaft and wheels' says Mark. 'There are 2 main materials used to produce turbine wheels commonly known as Inconel and GMR. Inconel is a high temperature for gasoline and some small high pressure diesel applications and GMR is a lower grade alloy used in larger diesel applications with lower temperatures. The lower temperature material costs less because of the lower Nickel content so when an OE develops a turbo for an application, it will use the lower cost material wherever possible. Sometimes exactly the same dimension shaft will be manufactured with different materials creating 2 part numbers. At our lower aftermarket volumes, the material cost is less significant so for 95% of our shafts, we always use the high temperature Inconel material even where we are replacing a genuine shaft with lower temperature material. Our guarantee is that we will always use the same specification material or better as a minimum to ensure our parts perform at least the same as genuine.'



The Future of Turbocharger Reconditioning

In May, the 8th International Conference of Turbochargers and Turbocharging was held by the Institution of Mechanical Engineers in London. The conference is organised every 4 years - Ian Warhurst, Managing Director and Mark Tindall, Development Engineer from Melett were in attendance at the 2 day conference.

"It was an interesting event as it gave us the chance to view the industry at the cutting edge of development and see what new designs are heading for the Aftermarket in 3 to 10 years time" reports Ian. "To summarise two very long days of lectures, the general conclusion was that there are no serious developments heading for OE production that could prevent reconditioning the majority of turbochargers as we know it. Electronic actuation could be a problem but the industry is already aware of this and looking to solve this problem. The turbo is already considered to be a highly developed piece of Engineering and the major leaps forward that are possible e.g. Electrical assisted boosting and air/magnetic bearings, are not actually reaching production because of issues like reliability and cost vs benefit."

"The great news is that the market growth predictions are phenomenal – quoted from published figures, the number of new turbos produced worldwide in 2000 was approximately 8.5 million units. The number predicted for 2007 is approximately 16 million units. If you think you are busy now – just look what's coming!"

New Workshop Reference Manual 2006/7

In response to customer requests, we have compiled a new workshop reference manual which contains all required machining and size data for use in the workshop (shaft journal diameters / bearing housing bore diameters and piston ring bore sizes). The manual also contains a quick reference to all our oversize bearings and piston rings as well as complete lists of repair kits, shafts, comp wheels and housings currently available from Melett with the OE cross reference. Contact Melett Sales for your free copy.



New Repair Kits & Parts

It has been a busy 2006 in the development department. We have released minor and major kits to cover the following new turbo models. All kits and parts are in stock and available to purchase in kit format or as piece parts.



TURBO MODEL	REPLACE OE KIT	MELETT NO.	DESCRIPTION
GT12		1102-012-751	Minor Repair Kit GT12
GT1544		1102-015-764	Repair Kit GT1544 (6.5mm ID Brg / 10mm Thrust)
GT32/35	709147-0001	1102-032-750	Minor Service Kit GT32 (similar to 709147-1)
GT32/35		1102-032-751	Major Service Kit GT32 (inc. Thrust Collar)
GT37/40	709152-0001	1102-040-750	Minor Service Kit GT37/40 (similar to 709152-1)
GT37/40	472559-0001	1102-040-751	Major Service Kit GT37/40 (similar to 472559-1)
GT42/45	709153-0001	1102-042-750	Minor Kit GT42/45 (similar to 709153-1)
GT42/45		1102-042-751	Major Kit GT42/45 (inc Thrust Collar 446451-4)
HC5A	3545647	1152-105-750	Repair Kit HC5A (replace 3545647)
HX30	3575205	1153-030-750	Minor Kit HX30/HX30W (replace 3575205)
HX35/40	3575169	1153-035-750	Minor Kit HX35/40 (replace 3575169)
HX35/40	4024788	1153-035-751	Minor Kit HX35W (replace 4024788)
HX50/55	3545627	1153-050-750	Service Kit HX50 (replace 3545627)
HX50/55	3545997	1153-050-751	Service Kit HX50 (replace 3545997/4027045)
HX50/55	3575181	1153-055-750	Service Kit HX55 (replace 3575181 & 3580762)
S1B		1252-201-750	Minor Repair Kit S1B (replace 318374)
S3A		1252-103-755	Minor Repair Kit S3A
S3A	318391	1252-103-756	Repair Kit S3A (replace 318391)
S3B	318386/7	1252-203-750	Repair Kit S3B (replace 318386 & 7)
S3B	318388	1252-203-751	Repair Kit S3B (replace 318388)
K24	5324-711-0009	1301-024-755	Minor Kit K24 (Small brgs) replace 5324-711-0009
K31	5331-710-0005	1301-031-750	Minor Kit K31 (replace 5331-711-0005)
K31		1301-031-755	Major Kit K31 (replace 5331-711-0005 & 0503)
HT10/12		1600-810-752	Repair Kit HT10-18
HT10/12		1600-810-753	Minor Kit HT12-19 (Nissan Patrol)

Thrust Collar and Spacer

Ever wondered why these little bits of steel are so expensive? The tolerances which these parts are manufactured to are extremely tight both dimensionally and geometrically. First the bore of the part must be absolutely perpendicular to the end faces. If not, when the rotor is assembled, the out of square part will create a slight bend in the rotor and will be impossible to balance. All the diameters must be concentric within tight limits or the part itself will create out of balance. The thrust faces must be perfectly flat and parallel with excellent surface finish to ensure they run square against the thrust bearing. The length of the collar or spacer is machined to a very accurate dimension to ensure the correct oil / thrust clearance is maintained. These are very difficult parts to manufacture correctly – treat them with respect!!



New Website build sheet service

Melett now offers a large database of turbocharger build sheets on-line at www.melett.com. The database is searchable and allows you to check which parts fit which turbos so you can make best use of your old core by knowing what is in it. You can also see which parts are available from Melett.

The database currently contains over 6000 Garrett and Mitsubishi builds including many VNT. Other models will be added throughout the year. If you can fill any gaps or find any errors, please send details to sales@melett.com.

Turbo Build Sheet Details	
Turbo OE No:	454195-0001
Vehicle OE No:	38253019
Turbo Model:	GT1749(VIS1)
Fitted To Make:	Volkswagen
Fitted To Model:	Golf TDI
CHRA:	433395-0007
OE Turbine Wheel No:	434533-0002
Melett Turbine Wheel No:	1102-017-441
Turbine Wheel Inducer Diameter:	43.1
Turbine Wheel Exducer Diameter:	36
Turbine Wheel Blades:	9
OE Compressor Wheel No:	434812-0001
Melett Compressor Wheel No:	1102-015-400
Compressor Wheel Exducer Diameter:	49
Compressor Wheel Inducer Diameter:	33
Compressor Wheel Blades:	6/6 Split
Turbine Housing:	434935-0001
Compressor Cover:	434808-0002

VNT Replacement parts Programme

To allow reconditioning of this rather popular brand of turbos, we are continually expanding our range of quality replacement parts. As of August 2006, we currently have the following parts available or planned in development...

Melett Part Number	Replace OE Number	Description	Availability
1102-015-435	433165-1 433165-7 434713-1 434715-5 433298-1 433298-30	Shaft and Wheel GT15	In Stock
1102-015-436	433298-32 434713-7 433298-4 433165-4	Shaft and Wheel GT15	In Stock
1102-015-437	433298-42 433158-1 433290-4	Shaft and Wheel GT15	In Stock
1102-017-435	704580-3	Shaft and Wheel GT18 Nissan/Mercedes	In Stock
1102-017-436	434533-6	Shaft and Wheel GT17 LAGUNA – fits 708639-000#	In Stock
1102-017-438	434533-2 434533-7 434533-9	Shaft and Wheel GT17 Fits Audi/VW 1.9TDi turbos	In Stock
1102-017-439	704580-1	Shaft and Wheel GT18 Opel Vectra/Astra 2.2TDi Mercedes Sprinter 709836 Saab 2.2TDi	In Stock
1102-017-440	434533-18	Shaft and Wheel GT17 Alfa Romeo/Fiat/Lancia Turbos 712766 / 716665	In Stock
1102-017-441	434533-2	Shaft and Wheel GT17 BMW 320d turbo 700447 VW/Audi 454231/2	In Stock
1102-020-435	434833-1	Shaft and Wheel GT2052V To fit Turbos 454135-1/2 Audi A4/A6 VW Passat TDi	In Stock
1102-020-436	434833-3/17	Shaft and Wheel GT2052V To fit Turbos 454135-1/2 Audi A4/A6 VW Passat TDi	In Stock
1102-020-437	434883-15	Shaft and Wheel GT2052V BMW 525d turbo 710415	Due Oct
1102-020-438	436504-4	Shaft and Wheel GT2049S Ford Transit/Mondeo	Due Oct
1102-025-435	740244-1	Shaft and Wheel GT2556V BMW 530d turbo 454191	Due Oct
1102-015-400	434812-1	Compressor Wheel GT15/17	In Stock
1102-015-401	702489-2/9	Compressor Wheel GT15/17	In Stock
1102-015-402	436132-3 703925-3	Compressor Wheel GT15/17	In Stock
1102-015-403	436131-2	Compressor Wheel GT15/17	Due Sept
1102-015-404	436132-2	Compressor Wheel GT15/17	Due Sept
1102-017-380	434855-1	Actuator VNT VW/Audi	In Stock
1102-017-381	434855-4/15	Actuator VNT Audi A3	In Stock

For full details on turbo builds and 'where used' for the above parts, use Melett new on-line turbo build database.

STAFF NEWS



The despatch team is also growing. Looking after the warehouse, shipping and documentation is Adrian. He is helped by the very capable and conscientious kit building and packing team Robin, Granville and Dave.



Maryna Henderson

We are also very pleased to announce the recent arrival of Maryna Henderson. Maryna has joined the team to work in sales with Chris and Patrick. Maryna is originally from Ukraine and as well as English, speaks Russian, Ukrainian and a little Spanish. She is now learning to speak turbo!

Мы также имеем удовольствие представить вам Марину Хендерсон. Марина начала работу в отделе продаж, сотрудничая с Крисом и Патриком. Марина приехала к нам из Украины, и помимо английского, владеет русским, украинским и немного испанским языками. Сейчас она учится разговаривать турбо!

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