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JASPER Opens European Front with Remanufactured VW Engine

Jasper Engines & Transmissions has issued its first European engine... the Volkswagen 1.8L DOHC five-valve engine. This engine fits the 1997- 2006 Volkswagen Beetle, Golf, GTI, Jetta and Passat, and 1997-2006 Audi A4 and TT.

JASPER's remanufactured Volkswagen engines are supplied with valve covers and oil pans. Late-model applications come with oil filter adapters. This makes for more stock numbers due to different variations, but JASPER takes these steps to ensure there is no contamination in this engine.

"We have found that oil sludge and caking is a common problem with these engines," says Justin Zipp, JASPER's Import Quality Control Engineer. "This buildup can be found in all of these

parts. By providing parts such as valve covers, oil pans and oil filter adapters we can be sure the engine is completely clean. JASPER utilizes a process where the baffle plate is removed from the valve cover and reinstalled after cleaning to eliminate all of the hidden contamination."

Cylinder head machining for the Volkswagen 1.8L can be difficult with standard equipment due to the small diameter heads and guides. JASPER uses a single-point CNC cutting tool to ensure the proper seal.

All JASPER remanufactured Volkswagen engines are provided with OEM gaskets, bearings, timing components and oil pumps. Variable cam timing versions of the engine receive new OEM actuator assemblies. Late model, water pump type blocks receive an updated water pump with a cast impeller rather than plastic. "We found that plastic impellers separate from the shaft," says Zipp. "The updated water pump prevents early failure."

All JASPER Volkswagen engines are live run tested where they are checked for overall engine operation. Readings for oil pressure, temperature, vacuum and compression are recorded. Every joint and seal is checked to make sure there are no leaks.

The JASPER remanufactured Volkswagen 1.8L engine is covered by a three-year 100,000 mile nationwide warranty. For more information on this engine, contact JASPER at 1-800-827-7455, or log onto: www.jasperengines.com.



JASPER's initial offering in European engines is the Volkswagen 1.8L DOHC five-valve engine.

Be Car Care Aware™

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Smutny & Ross Auto Repair

Located at the corner of Banyan and Walker Streets in South Miami-Dade County, Florida, Smutny & Ross Auto Repair is a family-owned business that takes care of their customers with full service general auto repair.

The business started in 1976 as a single bay shop with one mechanic owned by Steve Smutny, Sr. Meanwhile, Steven Smutny, Jr. was a college graduate from Temple University. He wanted to be more involved in the family business and moved back with his father in South Miami. Then there's the younger son, Bill Smutny. He completed two years of college, then decided to help his father and brother run the business and follow in both their footsteps. Together, Steve Sr. and his sons operate Smutny and Ross Auto Repair in Perrine, Florida. The 'Ross' in the company name represents a previous co-owner no longer in the business.

The 5,000 square foot facility, located at 9970 Banyan Street, boasts nine service bays and nine total employees. Smutny & Ross is capable of general vehicle repair, with room to service RV's and trailers for boats and trucks. They can also handle diesel engine repairs, electrical service, front end alignments, tire sales and repairs, and air conditioning service.

When it comes to experience, Smutny & Ross has two ASE Certified Master Technicians and four other technicians with ASE Certification that range from Transmission and Differential to

Air Conditioning. Each Smutny & Ross technician must attend a minimum of 16 continuous education seminars annually in various aspects of automotive repair. The company chips in for 1/2 of a technician's schooling at each seminar.

When it comes to using JASPER remanufactured products, Smutny & Ross Auto Repair has been a customer since 2002. Why do they purchase JASPER gas and diesel engines, transmissions and differentials? "Because it is a superior product with excellent customer service," says Steve Smutny, Sr. "JASPER has the same values as the ones we employ in our shop."

Customer service is of great importance at Smutny & Ross. "I have the utmost respect for my customers and I see them as part of the family," added Steve, Sr. It's part of the reason why the company has tripled in size over the years. As part of their exclusive customer service, Smutny & Ross provides a shuttle service for all their customers. And when the repairs are of a significant amount, customers are offered a free car wash. "Treat the customer the way you want to be treated," added Steve, Sr. "And fix it right the first time."

As for the future, Smutny & Ross plans to be better equipped to handle the new technology of today's automobiles, and continue providing excellent customer satisfaction.



Smutny & Ross Auto Repair in Perrine, Florida, is a family-oriented business with an emphasis on customer satisfaction.

Machining The Cadillac 4.6L Northstar Block

by Chuck Lynch, JASPER Research & Development

Chuck Lynch

has been associated with JASPER since 1994. Lynch has been a member of the Research & Development Department for the past ten years, and has been involved with Associate training in the Gas and Diesel departments. He has earned ASE Certification as an Auto and Truck Technician and a Master Machinist in Gas and Diesel Engines.



The CNC-controlled boring machine conducts the 20 head bolt hole repairs and 20 main bolt hole repairs on the Cadillac 4.6L Northstar aluminum block.

As the sales popularity of the Cadillac 4.6L Northstar engine has grown for Jasper Engines & Transmissions, it has made us take a hard look at the methods that we use for processing the cylinder block.

The block has thread repair needs that are not typical of most cylinder blocks. Every head bolt and main bolt hole must have a thread repair installed as the original threads either fail, resulting in engine failure, or the threads are pulled from the casting during the disassembly process. This condition means that we must install 20 head bolt hole repairs and 20 main bolt hole repairs per block 100% of the time.

The method to install these repairs consisted of different drilling jigs to ensure that the thread repairs were installed to the proper depth and locations. More of an issue than getting the repairs in the correct locations and proper depth was the manpower required. Each hole had to go through a four-step process to ensure that a quality threaded hole is made for the fasteners.

1. Each hole was 'drill reamed', with a specialized type of drill.
2. Each hole was tapped, which required the removal of drill bushings and replacing them with tapping bushings.

3. Each hole had a steel thread repair installed with an anaerobic sealant. This required removal of the locating jig.
4. Once each repair was in the block, specialized broaching tools were used to swedge the thread repairs into the castings and ensure proper thread pitch and diameter.

After reviewing the labor, tooling cost and cycle times, JASPER decided that we must work smarter and try to employ less physical means to install the needed thread repairs. Adding a machine to the process was definitely the way to go, but what type of machine was the question. Do you just employ more jigs and fixtures and use a drill press or boring machine? As we reviewed the possible other steps that we could incorporate into the process we decided to proceed with a fourth axis machining center. This would not only allow us to drill and tap bolt holes but we could bore cylinders and mill the gasket surfaces as well. The benefits can be weighed out in three primary categories and they are as follows.

Quality and Accuracy:

The fourth axis machine allows JASPER to ensure that all threaded holes are located to print specification for depth, size and location more accurately than jigs can. CNC machining centers rely solely on datum points to function. Therefore, with cooperation from gasket suppliers and their part print dimensions we can not only ensure that all threaded holes are properly located but we can also ensure that cylinder bores are going to be properly located in the gasket combustion opening. This is true of dimensions such as crank to cam bores as well.

Tool expense and life:

The machining center can increase tool life because the proper speed and feed ratios are employed for given tool materials and casting materials. Tools are stored in an automatic changing device, not pitched in a toolbox, therefore reducing opportunity to damage costly tools. Tools are constantly having coolant applied during the machining cycle; whereas, when doing processes by hand it would be a little shot of lubricant and go to work.

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AAM Introduces Gear Set for Fuel Economy

American Axle & Manufacturing (AAM), has made available a new exclusive aftermarket 3.42 PowerDense® gear set for 2003 to 2007 Dodge Ram Heavy Duty 2500/3500 turbo diesel pickups. The gear set and its technology was recently showcased at the Automotive Aftermarket Products Expo.

AAM Aftermarket now offers Dodge Ram diesel pickup owners the 3.42 ratio gear set as an alternative to the numerically higher ratio gear sets that are currently available. The lower ratio set reduces engine rpm, which helps improve fuel economy under normal driving conditions which exclude hauling, climbing grades, or pulling a trailer.

The 3.42 ring and pinion is designed to fit inside the original equipment AAM 9.25-inch front and 11.5-inch rear axles without modifications to the transmission or the truck's on-board computer. In pre-2007 pickups the front axle requires a new redesigned differential case along with new side and differential pinion gears. All 2007 models have the advantage of coming with a factory installed redesigned differential case, along with side and pinion gears making the installation process easier.

AAM PowerDense® Ring and Pinion Gear Sets

AAM utilizes state-of-the-art face hobbing to generate the gear tooth form in a two-cut process. This represents AAM's latest effort to enhance NVH, durability, quality and reliability of its ring-and-pinion gear sets. The key advantage of a two-cut gear set occurs when the components are being hobbled or generated. Hobbing creates more surface area and equal tooth depth. This produces lower alternating bending stress levels while creating a more even distribution of loading across all of the teeth. The results are reduced levels of NVH and increased durability.

Another key advantage of the two-cut process is the use of continuous indexing. In the manufacturing process the gear teeth are generated simultaneously with uniform tooth spacing and no imperfections.

Additionally, the two-cut manufacturing process permits tighter backlash



The AAM 3.42 PowerDense gear set is available for 2003-2007 Dodge Ram Heavy Duty 2500/3500 turbo diesel pickups.

specifications between the gear and the pinion. Backlash is defined as the amount of free play between two gears in their operating positions. The results are reduced heat, NVH, driveline clunk and increased gear set durability.

Finally, two-cut manufacturing is an environmentally friendly process. Since the components are dry cut, the presence of a coolant medium at the point of engagement of a tool and a component is eliminated. Without coolant, no mists or smoke are produced.

Tough Stuff

AAM PowerDense® gear sets are made from high quality Society of Automotive Engineering (SAE) steel purchased only from approved AAM and OEM steel suppliers. Special high core hardenability steel is utilized to enhance the design and manufacturing process of the gear sets.

The specified steel also lends itself to precision shot peening which extends the life of AAM PowerDense® gear sets. In this process, spherical shot is targeted at the root of the gear teeth and bombards the surface, resulting in compressive stresses to combat fatigue loading. The compressive stress increases AAM ring and pinion durability and reliability.

AAM parts are also forged, lapped and heat treated to meet OE manufac-

turers' stringent standards. Coordinate Measuring Machines (CMM) are then used to inspect the parts for accuracy.

AAM – Tough to Beat

AAM engineering teams have advanced the design and manufacturing processes of driveline systems, chassis systems and metal formed products since 1994. AAM designs, tests and validates its ring and pinion sets to vehicle manufacturers' exact specifications. AAM's on-going programs in NVH, thermal management, vehicle-system efficiency, dynamics and vehicle handling and other disciplines assure customers that the parts they are getting incorporate the latest product, process and systems technology.

For more information on AAM gear sets and other products and services, visit the Internet at www.aam.com or dial 1-800-299-AXLE.



A Satisfied JASPER Customer!

Hey Doug,

Hope all is well with you and yours. Just had one of the best experiences with a motor R/R ever. We did our first JASPER Engine here in the shop and I came in to help the tech myself.

Well once everything was in, we just primed the oiling system and dropped the distributor in. We lined up the timing marks and it flashed right up. No valve noise, no having to remove valve covers to adjust valves. It was great!!!

You guys put out a great quality product. Thanks.

Andrew doCouto, Manager
KalTire #65
Kamloops, British Columbia

We Have Our Calendar Winners for 2008!

There were a lot of great entrants submitted this year, but we have our winning photographs to grace the pages of the 2008 Jasper Engines & Transmissions Calendar.

All of the entrants received this year were judged on adherence to the category, equipment appearance and the quality of the photograph or image.

Every qualified entrant received a hat autographed by Ryan Newman. All entrants whose work appeared in the calendar received a \$100 gift certificate which can be used to purchase JASPER remanufactured products or wearable items, 24 complimentary calendars and a special JASPER Gift Package.

Congratulations to all our winners!

Delonzo & Diane Rhyne
Indianapolis, IN
1966 Ford Thunder Hawk
Convertible Mustang

Ray & Mary Swafford
Ringgold, GA
1967 Ford F-100 Pickup

Joseph & Diane Greschuck
Brandon, FL
1966 Chevrolet Corvette

Louis & Francine Martinez
Merced, CA
1971 Chevrolet Nova

Ed Geerlings
Muskegon, MI
1979 Chevrolet Corvette

Joe Williams
Franklin, GA
1947 Ford Roadster

Malka Kornblatt
Boca Raton, FL
1967 Pontiac LeMans Convertible

Larry Burnette
Bradenton, FL
1929 Ford Model 'A' Replica

Thomas & Paula Markley
Bellevue, WA
1972 Pontiac Lemans Sport
Convertible

Wayne Huffman
Woodsfield, OH
1940 Ford Pickup Street Rod

Bob & Karen Celauro
Bensalem, PA
1965 Buick Skylark

Kevin Appel
Port Jefferson, NY
1968 Shelby GT500 Mustang

Lynn Hoover & Steven Bickell
King of Prussia, PA
1970 Plymouth Duster



1929 Ford Model 'A' Replica owned by Larry Burnette of Bradenton, Florida.



1967 Ford F-100 Pickup owned by Ray & Mary Swafford of Ringgold, Georgia.



1970 Plymouth Duster owned by Lynn Hoover & Steven Bickell of King of Prussia, Pennsylvania.



1947 Ford Roadster owned by Joe Williams of Franklin, Georgia.



1979 Chevrolet Corvette owned by Ed Geerlings of Muskegon, Michigan.

(continued from page 3)

Ergonomics and cycle time:

Cycle times are reduced because there are no jigs to install on the casting, the machine changes the tooling for the different processes and the machine's elbow and shoulder will not get tired after 15 minutes of leaning on a drill. The rotary table can move the block from bank to bank at a speed of 710 inches per minute without changing hands and so on.

Although this is not new technology, it does go against the grain for engine re-manufacturers as we traditionally have a boring machine, a milling machine, and use a lot of jigs and fixtures for processes. It does not mean that the other methods are bad but it is easy to overlook the potential that the machining center can bring to our industry if we just keep doing what we have for so many years.

E-Commerce Portal Drawing

October and November were the latest months for JASPER's E-Commerce Portal Drawing. That means we have two more winners!

The winner for October was Babb's Auto Enterprises of Elgin, Illinois. They selected the \$400 rebate coupon.

The winner for November was True Automotive Sales & Service of Everett, Pennsylvania. They selected the race package option and will join us for the 2008 Brickyard 400.

Don't forget, when you order through JASPER's fully-customized E-Commerce Portal, your business will be entered into a monthly drawing. Winners have the choice of:

- One day of deep-sea fishing on the Gulf of Mexico for one person (includes lodging).
- Two race tickets & hospitality at one of the JASPER NASCAR Incentive Races in 2008 (lodging NOT included).
- A \$400 rebate coupon to be used towards future JASPER purchases.

Transportation to and from all activities is the responsibility of the winner.



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