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JASPER Opens Remanufacturing & Distribution Center On West Coast

Jasper Engines & Transmissions continues its westward expansion. JASPER officially opened its new Remanufacturing facility and Distribution Center during a ribbon-cutting ceremony in Bellingham, Washington.

This new facility utilizes 75,000 square feet of production and inventory space. Bellingham's 180 associates are responsible for JASPER'S line of remanufactured import gasoline engines.

The ceremony was held in conjunction with the Tenth Anniversary of Yamato Engine Specialists Ltd. In 1999, Yamato entered into a Strategic Partnership Agreement to supply JASPER with their entire import product line. Bellingham General Manager Asiff Dhanani says the relationship with JASPER has been a perfect fit. "We have

been able to grow in our product quality and dedicate all our resources to building the Perfect Product," said Dhanani. He says Jasper has been instrumental in these efforts by providing a wealth of knowledge from their experience of over fifty-eight years in the remanufacturing industry, and the staff to implement it.

Dhanani says the Bellingham Distribution Center will store and distribute products built in JASPER, including all gas and diesel engines, transmissions, differentials, and marine stern drives. Dhanani says these products will be distributed to JASPER customers throughout the Northwest, and bring JASPER'S quality remanufactured drive line products to the area.



Jasper Engines & Transmissions President Doug Bavel (standing at left), and Vice President of Sales Tom Schrader (standing at right), joined local dignitaries in officially opening the Bellingham, Washington facility.

Borches Hi-Tech Auto Repair

Borches Hi-Tech Auto Repair in Warren, Michigan, is the story of an individual working and living the American Dream.

Yugoslavia-born Borche 'Bob' Siljanovski came to the United States from Great Britain in 1971 when he was 14. He always had a love for cars, so during high school he took night classes for three years at a mechanics school.

After finishing school, Bob worked for a Chevrolet Dealership in Detroit from 1976 to 1989. He then opened Borches Hi-Tech Auto Repair on October 5th, 1989. When he first opened, his shop was just 2,200 square feet. But the growth of his business prompted an expansion in 1995 to its present size of 5,100 square feet. The shop, located at 24601 Hoover Road in Warren, now has nine service bays and four lifts, along with three ASE Certified technicians, and two office personnel. Bob says the constant training of he and his technicians is very important. "If you don't keep yourself updated, you're out of business," says Bob.

Borches Hi-Tech Auto Repair started using JASPER Remanufactured Drive Train Products in 1992 to take care of fleet and personal vehicles. Bob estimates he installs 12 to 14 gasoline

engines a year, along with a few transmissions and differentials. Bob likes JASPER Remanufactured Products because, as he puts it, "the product speaks for itself." Bob is aware there are companies that will try and sell him something. But he trusts JASPER not only for the quality of the product, but because of JASPER'S warranty. Bob says if his customers travel, "if there is a problem, JASPER stands behind them."

Bob says his repeat customers, both fleet and individuals, are familiar with the JASPER product, and he says he wants his customers to feel comfortable when he deals with them.

Bob is also involved in many activities to help the community. Borches Hi-Tech Auto Repair sponsors the local DARE program, BBA, the Warren Beautification Project, which is organized to keep the city clean, and sponsor of children that participate with the Warren Police Department.

The goal of Borches Hi-Tech is to achieve annual growth of ten to twelve percent, and with keeping his focus on education, quality, and the local involvement in his community, there's no doubt he will continue to reach his goals.



Borches Hi-Tech Auto Repair in Warren, MI, takes care of both fleet and personal vehicles. Borches 'Bob' Siljanovski (second from right), his technicians Sean and Alex, and his Office Assistant Pat, have been together since the company's opening in 1989. With a goal of achieving an annual growth rate of 10 to 12 percent, Bob says he will look for more technicians to keep with his facility's rapid growth.

Customer Profile

Durability and Bearing Wear: The Truth

About Durability



By Matt Barkhaus
Engine Bearing Product Planner Federal-Mogul Corporation

Matt Barkhaus

has twenty years of experience with Federal-Mogul. He has been in various distribution and marketing functions within the North American aftermarket business. Matt is currently the engine bearing product planner within the Engine Parts Marketing Team. His product planning responsibilities include bearings, bushings, thrust washers and connecting rods. This is the second installment of his story on selecting the perfect bearing for every application.



Yes, bearings do and will wear out. Regardless of material and design advances, modern engine bearings are not indestructible.

By far the most common cause of premature bearing failure is the presence of dirt in the engine. If the vehicle is operated in extraordinarily dirty conditions, or the vehicle owner fails to change the air filter, engine oil and oil filter at proper service intervals, dirt will accumulate within the oil. Some fine dirt particles will embed into the lining of the engine bearing. Keep in mind, however, that each particle is an addition to the lining material, potentially causing the bearing wall to thicken.

Larger hard particles, and excessive small particles, might only partially embed within the lining. In this case, the lining can

essentially hold the particle against the shaft, causing damage. In virtually all cases, bearings will become scored from the presence of excessive dirt. The amount of distress depends on the type of dirt, the amount of dirt, the oil clearances, bearing material, and the engine operating conditions.

Insufficient lubrication is another cause of bearing failure. This condition can cause “wiping” of the bearing, through which lining material is picked up and redeposited in another area of the bearing face. In severe conditions, there can be serious overheating of the bearing material in areas where the lining has been wiped away.

Insufficient lubrication can have several causes: low engine oil supply, a dry start following an overhaul, incorrect oil clearances between the bearing and the shaft, inadequate oil pump delivery, a malfunctioning oil pressure relief valve, dilution of the oil with fuel (often caused by piston ring blow-by), dilution of the oil with antifreeze (defective head gasket, warped cylinder head and/or cracked block) and improper bearing installation.



The last point warrants special attention. In many applications, the upper and lower main bearing halves are identical and each can be placed in either position. In other applications, however, one bearing half might have an oil feed hole, while the other does not. If these bearings are reversed, the result will be oil starvation and

total failure of the bearing.

Severe overloading from over-revving the engine or lugging under unusually heavy loads can cause surface spalling and fatigue cracking in ordinary bearings. Upper rod bearings and lower main bearings showing signs of fatigue stress (flaking and separation of bearing layers from the steel backing) may indicate a detonation or pre-ignition problem. Excessive oil clearances can also be a contributing factor to overload failure.



Bearings can even fail due to *excessive idling*. This type of failure is due to poor oiling and inefficient oil film formation caused by slow shaft speed and low pump output, combined with the repeated explosive forces produced by the combustion process.

Corrosion is another issue worth exploring. Corrosion occurs, in most cases, with copper alloy bearings. Typically, the bearing's lead phase is attacked by some ingredient of the oil. Some causes of the contamination are infrequent engine operation, extended oil change intervals, the use of high-sulfur diesel fuels, extremely hot operation, incompatible engine oils, using “sour” gas as fuel, and extreme piston/ring blow-by.



Jasper's New Videos Have Hit The Streets

The next time your JASPER Factory Representative comes to your business, ask to see the new Jasper Engines & Transmissions Update Videos. These short subject movies will show you the latest remanufacturing processes at the Jasper and Crawford facilities.

Here's a brief description of the videos your JASPER representative has to show you:

•**Gasoline Engine Updates** - This video is an overview of each gas engine update, and provides the benefits of each update for your customer.

•**Detonation & Pre-ignition** - Defines the causes of detonation and pre-ignition, and offers troubleshooting assistance on where to locate the problem.

•**Transmission Cell Assembly** - Shows how JASPER'S new cell assembly area remanufactures Ford AOD, E4OD, and C6 automatic transmissions.

•**Axi-Line Transmission Dynamometer** - Shows you, step-by-step, how this new computerized dynamometer tests a JASPER remanufactured transmission.

•**Customer Video** - This updated video shows the advantages of purchasing a JASPER remanufactured product. This video is available on VHS and DVD formats.

There will be additional videos in the future, as JASPER strives to keep you up to date on the latest remanufacturing processes.

How To Handle Inquiries and Build Trust over the Telephone

What do you do when you receive a telephone inquiry from someone you have never spoken to before? Is it possible for you to sell that potential customer a JASPER remanufactured product? The answer is unquestionably YES! But first, you have to build a bond, or trust with that customer before you can quote the job.

In building trust, you should ask questions that involve your caller, such as, "Other than the engine, is the car in fair condition?" Make it a point that you listen to what your customer is saying.

Take the time to explain what JASPER will do and what you will do for them. You should assume a consulting role when you present a

JASPER product; use the features and benefits of our products, along with the unique factors of your own business - like your years experience, the diagnostic equipment in your shop, references, etc. - to separate your shop from your competitors.

Your credibility as a quality JASPER installer means a great deal to your customer. He, **OR SHE**, values your opinions, knowledge and experience to help them make an informed decision and purchase a product that will meet or exceed their expectations for quality, value and reliability.

Be sure you have your customer's name, address, telephone number and fax

Newsletter Archives On The Web

You can now find technical information and other articles from past copies of the JASPER News & Updates Newsletter.

Readers can access the articles by logging on to www.jasperengines.com. Access to the articles is available from our "What's New" page.

JASPER has also improved its on-line catalog, so you can quickly obtain a price quote on a gasoline engine or transmission.

And, of course, JASPER product videos can be viewed on the web site. A video featuring an overview of JASPER is available on the home page, while individual product videos are available on the product pages. The videos are import and domestic gasoline engines, diesel engines, light-duty and mid-range transmissions, stern drives and differentials and rear axle assemblies.

In order to view the videos, users will need Windows Media Player. If this software is not installed on your computer, you can download it at no charge from a link on the JASPER site.

number so you can follow up with that person.

Then suggest to the caller that they bring their vehicle in to your shop, to verify its condition and review their situation in person. Take as much time as needed when the customer comes to your shop; continue to build rapport and trust with that person. And, be sure your shop is kept spotless and professional in appearance.

This sounds like an extensive amount of work. But the results are worth the effort.

We Have Our Calendar Winners!

It was a tough selection process from the dozens of entries we received. But the winning photographs have been picked to grace the pages of the 2001 Jasper Engines & Transmissions Calendar. Our 2001 winners are:

Jimmy & Mary Turner
Dunlap, TN
1956 Chevrolet Belair 2-door
Hardtop

Dennis Kunnath
Shelby Twp. MI
1970 Chevrolet Chevelle SS 454
Convertible

Albert & Anne Herold
Catonsville, MD
1958 Plymouth Savoy

Steve Martin, Jr.
Long Branch, NJ
1948 Chevrolet Pick-Up

Ray Harp
Hampton, VA
1946 Ford Truck

Gary & Linda Young
Millfield, OH
1930 Ford Model 'A'

Justin Ramsden
Mt. Laurel, NJ
1967 Ford Mustang Fastback

Larry Webb
Toledo, OH
1970 Chevrolet Corvette

Jason Kelley
Toledo, OH
1983 Chevrolet S-10
Extended Cab

Roger Hunter
Huntingburg, IN
1972 Chevrolet Blazer
Convertible

Dennis & Jon Schick
Blue Island, IL
1968 Pontiac GTO

Bill Petruniak
Melvindale, MI
1965 Chevrolet Impala SS

Reggie Selleck
Buchanan, NY
1933 Ford Cabriolet

Honorable Mention

Jeff Bassett
Cedar Springs, MI

Entrants were required to submit a color photograph, color slide or color transparency of a vehicle or application in which a JASPER gas or diesel engine, transmission, differential or stern drive has been installed. The vehicles were to be placed in a "show" type setting when photographed.

Entries were judged based on adherence to the category: vehicles and performance-oriented cars and trucks; the appearance of the equipment, and the quality of the photograph, slide or transparency.

Congratulations to our winners. They will receive a Jasper Motorsports race jacket and a \$100 credit toward their next purchase of an engine, transmission, differential, or stern drive. Our Honorable Mention winner receives a JASPER sweatshirt and a \$50 credit toward their next purchase of one of the above mentioned products. And all of our contest entrants will receive an auto-graphed JASPER race hat.



Pictured here are just a few of this years contest winners. For a look at all of the winners in full rich color, be sure to watch our website at www.jasperengines.com.

On The Technical Side: A Brief Look Into Surface Finishes

By Brian Campbell - Research and Development

Any time you have a machining process you create a surface texture that will need to be measured. To fully control and monitor the machining process, you need to be able to measure the surface finish. This is possible through the use of a Profilometer (Figure 1).

The Profilometer is a device that utilizes a fine stylus probe that rides along the surface at a given sampling length measuring the peaks and valleys that were left by the machining. When measuring, make certain that the probe is pulling the stylus perpendicular to the tooling grooves left from machining. The measurements are taken in microinches, or millionths of an inch, so any flaw can give you an inaccurate reading. It's a good idea to take multiple readings in different locations when testing. A centerline is set up by the profilometer using the measurements of the peaks and valleys, then off of that centerline, the readings are calculated by the machine.

There are many variables when measuring surface texture such as roughness, waviness, and lay. When all these are put together you get what is called a surface profile. The first component, roughness, is the tool marks left behind after machining. The second, waviness, is not inherent to the machining

process, but it can be caused by out of balance cutters or vibration in the machine itself. The third, lay, is the surface pattern direction that depends on the machining process. Processes like turning, grinding, and drawing create a regular and measurable pattern.

When measuring the surface finish with a profilometer, the surface profile will be set to a particular parameter that best suits your needs. There are in excess of 150 parameters that are being used today throughout various industries. The United States adopted, Root-Mean-Square (RMS) value, was one of the most popular parameter used in recent years. Today, one of the more common parameters used in the U.S. is Roughness average (Ra). Ra is the average of the values of the profile height taken within a specific sampling length and measured from the profile centerline. Ra may be the most popular parameter, and an excellent way to monitor your process, but it is not always the best for what you are trying to achieve. As the name suggests, it is an average. The same reading can describe two different surfaces as illustrated in Figure 2. Both surfaces have the same Ra readings but are in fact very different.

When analyzing a surface finish,

Brian Campbell

has been with JASPER since 1992.

Brian is an ASE Certified Cylinder Head Specia-



list. He started his career with the Gas Engine Assembly Department, then moved to Research and Development in February of 2000. Brian's responsibilities include random gas engine audits to ensure quality and performance of the product, and the research of new engine types, in preparation for future production at JASPER.

you need to take into consideration all of the factors that may be present. You may also need to use multiple parameters to get an accurate profile of the surface.

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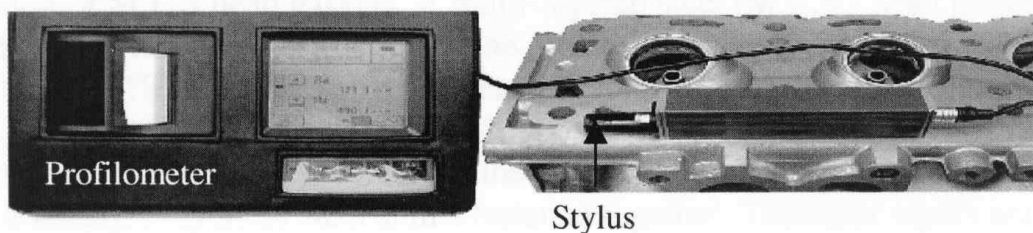


Figure 1 - The Profilometer utilizes a fine stylus probe that rides along the surface at a given sampling length, measuring the peaks and valleys that were left by the machining.

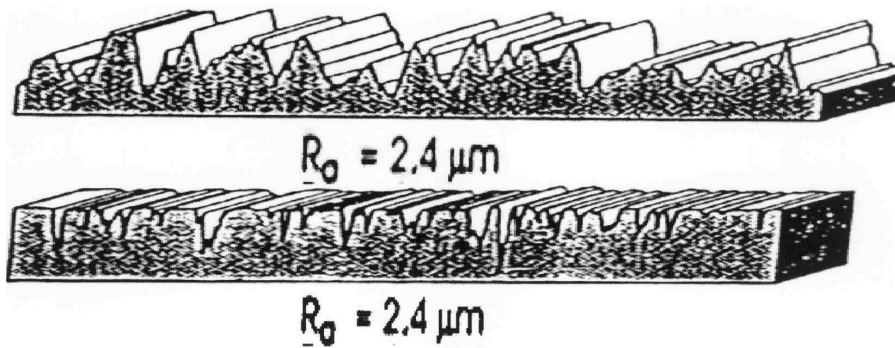


Figure 2 - Ra may be a popular parameter, and an excellent way to monitor your process, but it is not always the best for what you are trying to achieve. The same reading can describe two very different surfaces.

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As shown in Figure 2, a single reading may not be adequate for the situation. Other parameters such as Rpk (average peak height) or Rvk (average valley depth) would have shown a noticeable difference, giving a more defined profile. Rz, also known as the ISO 10 point parameter, is another parameter that is growing in popularity due to the accuracy that it provides in assessing the peaks and valleys of the surface. This is accomplished by measuring the difference between the five highest peaks and the five lowest valleys and giving the average height.

The proper surface finish is vital to ensure the part will perform properly and meet its life expectancy. A good finish for oil retention may not be the best fin-

ish for a good seal, so finishes need to be matched with what you are trying to accomplish. One example of changing parameters due to new materials in the automotive industry is the introduction of multi-layered steel head gaskets (M.L.S.).

An M.L.S. head gasket is designed to help limit the destruction of the gasket from the shearing action between the head and the block. This has become a problem due to the use of dissimilar materials like cast iron and aluminum for the block and heads. The different expansion rates of the two materials have caused some problems in the past. The M.L.S. gaskets minimize this by the use of multiple layers of steel shims fastened together. The outer layers are coated with a nitrile rubber, or a fluoroelastomer (Viton) to help with cold sealing. The com-

positions of these materials require a very smooth surface to ensure sealing. With a traditional head gasket, we would like to see a surface finish of 60-100 Ra (400-800 Rz). But for the new M.L.S. gasket, the finish should be a maximum of 30 Ra (500Rz). Needing to achieve such a smooth surface with very little room for error has made it even more important to be able to measure the surface finish accurately.

The art of surface finishes has developed into a specific and complex science, which is continuously changing. With the growing number of parameters and new materials being used in today's manufacturing, it is nearly a guarantee that this technology will become even more complex in the future.

Do You Remember What You Read?

So you say you read the JASPER News & Updates from cover to cover? Now you can see how much information you've retained after you've read it. After you have answered the questions, simply clip out the coupon and send it to us. Each month we will take all the correctly answered coupons and randomly draw one out. The winner will receive a JASPER racing hat! Send to: **Jasper Engines & Transmissions • P.O. Box 650 • Jasper, IN 47547-0650**

Name _____
 Address _____
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Jasper News & Updates - November Issue

1. Name the General Manger of the new Bellingham Facility? _____
2. What is the most common cause of premature bearing failure? _____
3. What are the three components of a surface profile? _____
4. What is Rpk? _____





JASPER ENGINE AND TRANSMISSION EXCHANGE

815 Wernsing Road · P.O. Box 650 · Jasper, IN 47547-0650

e-mail: sales@jasperengines.com

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