



**JASPER**  
ENGINES & TRANSMISSIONS



**DRIVE  
LINE**

**News and Updates From Jasper Engines & Transmissions**

**March 2006**

***In This Issue...***

*Customer Profile:*  
Scribner Repair  
Center **pg. 2**

*Jerry Hammann:*  
Dealing with  
Engine Sludge **pg. 3**

JASPER Uses  
Induction Heating  
in Gas Assembly **pg. 4**

Coated Bearings  
from  
Federal-Mogul **pg. 5**

Chad Morgenthaler  
Joins Jimmy Ward  
on JASPER  
Fishing Team **pg. 6**

***April is National  
Car Care Month!***



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**Michael Waltrip and JASPER Form  
Racing Partnership for 2006**

President and CEO of Michael Waltrip Racing, Inc., Michael Waltrip and President of Jasper, Doug Bawel, announced the formation of Waltrip-Jasper Racing Company, LLC. Waltrip-Jasper Racing will field the #55 NAPA AUTO PARTS NASCAR NEXTEL Cup Dodge in 2006, driven by Waltrip.

Bawel has been in racing for over 15 years, previously as an owner of Penske-Jasper Racing Company's #77 Kodak Dodge. Bawel will serve on the Board of Directors and will be active in business management and sanctioning body relationships for the new company.

"I have been in the sport as a driver for 22 years and the logical progression for me was ownership at the highest level, the NASCAR NEXTEL Cup Series," Waltrip said. "This is such a big step, that I wanted to partner with someone who has intimate knowledge about ownership at this level. Doug Bawel and I have been friends for a number of years and I have always respected the way he handled himself in the garage and with NASCAR."

"I learned quickly that Michael is a goal oriented person," Bawel stated. "When we began talking about the possibilities of teaming up, he started dialing the phone and making things happen immediately. He is a talented driver and a proven NASCAR Busch Series car owner, but most importantly as he moves into NASCAR's premier series, he is a

man with a vision that likes to take ideas from paper to reality. I am delighted to lend my experience and management support to Waltrip-Jasper Racing."

Waltrip-Jasper Racing has contracted Bill Davis Racing to be the source of cars, engines and personnel.

Additionally, Waltrip-Jasper Racing has created their own team of people. The foundation of Waltrip-Jasper Racing is sculpted with experienced people vested in NASCAR. Ty Norris, former EVP of Dale Earnhardt, Inc. will serve as the general manager overseeing the operation. Waltrip's long-time confidant, Bobby Kennedy will serve as the Competition Director and Larry Carter, a veteran crew chief, has also been contracted by Waltrip-Jasper Racing to be a part of the team.

"I know how intense this business is and I am prepared for the challenge," Waltrip said. "I am committed to being successful as an owner and I think the industry will recognize that when they see the caliber of personnel and sponsors I am bringing into this organization. But, there are a lot of days when I anticipate I will need my sense of humor, so I believe I will keep it."



## Scribner Repair Center

Sullivan, Illinois, is located at the edge of the state's Amish country. Sullivan makes hitching posts available to accommodate the horse and buggies of the Amish who shop in the city.

Scribner Repair Center has no hitching posts. But they are Sullivan's premiere establishment for general auto repair, brakes and air conditioning service.

Joe Scribner is the owner. Joe started in the automotive field at the age of 15 when he worked at a local service station. He later took high school automotive classes, and earned an Associate Degree from a college automotive school.

After working in a salvage yard, and various automobile dealerships, Joe struck out on his own and in February, 1987, he opened Scribner Repair Center at 213 S. Market Street in Sullivan.

The business grew over time, and in April 2005, Scribner moved into a new 7,000 square foot facility complete with eight service bays to serve his growing clientele. Four employees work the Scribner service bays. There are two ASE-Certified Technicians, including one Master Technician. Scribner's

technicians keep tuned to the latest automotive advancements by participating in technical clinics that come to the area.

Since 1989, Scribner Repair Center has sold JASPER remanufactured engines, transmissions and differentials from their facility. "We like using JASPER for their outstanding quality and warranty," says Scribner.

The success of Scribner Repair Center is despite the fact the business is not located on one of Sullivan's main thoroughfares. Customer service is the key. "We will grease fittings, check all fluids, inspect tires, belts and hoses with each oil change," says Scribner. "Our new facility also has a waiting room with TV and kids entertainment available."

"This business would not survive without our customers," added Scribner. "Our customers are our best advertising for our business." It's part of Scribner's business philosophy of "Be honest, and give your best service." JASPER and Scribner Repair Center... two businesses providing the customer with the best service possible.



***There are no hitching posts at Scribner Repair Center in Sullivan, Illinois. Scribner moved into this 7,000 square foot facility in April of 2005.***

# Dealing with Engine Sludge

by Jerry Hammann, JASPER Bellingham Remanufacturing Facility

## Jerry Hammann

*has over 35 years of hands-on engine experience. He is an Associate of JASPER's Research and Development department at the Bellingham.,*



*Washington, remanufacturing facility. Jerry attended Allen Hancock college in California while working as a machinist/engine builder for Central Machine. Jerry later owned and operated The Machine Works doing sales, setup, service and training of shop equipment. He has been an Associate at JASPER since 2003. Jerry is an ASE-Certified Master Engine Machinist.*

Imagine if you will, a world where every car owner changes their oil every 2500 miles. Cars come equipped with an egg attached to the accelerator pedal. Service schedules are adhered to religiously and the lights on the dash are understood and heeded. Imagine if you will, a world, if you're in the automotive business doing anything other than routine maintenance, where you're probably unemployed.

The engine specialist has 2 best friends, negligence and sludge. Negligence will always be with us. It is continually fostered by trends in the auto industry.

As long as negligence is around sludge will be at his side and, well, we'll have a job.

Consumers blame the automakers and the automakers blame the consumers. There's plenty of blame available on both sides.

That may seem a bit harsh so a closer examination of exactly what sludge is and how it forms is in order.

Technically sludge is defined as an agglutination or aggregation of components forming a semisolid mass that often impedes circulation. A few choice

synonyms are contamination, crud, defilement, dregs, muck, ordure, putrefaction, putrescence, putridity, scuzz, sleaze, slime... You get the picture.

The components in our world are engine oil, blowby gases and heat. Engine oils are equipped with additive packages to prevent the combining of these elements, but without regular oil changes and a proficient crankcase ventilation system you run into that limit thing. You know what happens when you try to put 11 pounds of "stuff" in a 10 pound bag.

There are numerous trends that are contributing to these problems. In an effort to reduce emissions, manufacturers run engines at higher temperatures and attempt to achieve those temperatures more quickly.

When you start your car cold, the catalytic converter, which only works at a fairly high temperature, does almost nothing to reduce the pollution in your exhaust. One simple solution to this problem is to move the catalytic converter closer to the cylinder head and in recent cases actual integration with the exhaust manifold. The proximity of the converter causes hot and cold spots - just what we don't want regarding sludge formation. GM wants the temperature to vary no more than 15 degrees between head and block. Hot spots bake oil causing sludge and cold spots cause acid formation contributing to sludge. That results in the necessity



**Sludge buildup can be very harmful to an engine.**

of 5 distinct cleaning steps, 3 distinct inspection steps and albeit indirect a job for me.

Higher combustion temperatures, fuel technology, tighter tolerances and improved sealing all combine to change the nature of crankcase gasses making them more acidic and, by nature, more prone to the chemical reaction with engine oil. The result, less pollution, more sludge and an October house payment for me.

It might be convenient to put the blame primarily on the consumer's lack of maintenance but a preponderance of the evidence would indicate otherwise. Clarence Ditlow, executive director for the Center for Auto Safety said "Oil sludge is our #1 priority this year."

Toyota extended the warranty to 8 years on 3.3 million vehicles considered "at risk" in 2002. Toyota then changed the baffle design structure on their V6 engine families. VW took similar warranty action on 426,000 1.8L equipped vehicles. Saab had to back pedal on 132,000 2.0L and 2.3L I4s. And the 2.7L Chrysler well that's what remanufacturers dream about. Ditlow is petitioning the NHSTA to recall 1 million plus vehicles. Manufacturers are very careful about the exact terminology of warranty provisions.

The Center for Automotive Safety reported a case in Ohio of a 2002 Chrysler Sebring with barely 20,000 miles. \$6,100.00 to replace the engine and, no, the warranty doesn't cover sludge. It was reported that Chrysler told the customer the oil should have been changed 9 times because of severe driving conditions, not the 3 times the manual suggests. The oil change intervals can go anywhere from 3,000 to 10,000 miles depending on whether the vehicle's use is "severe". Problem is, manufacturers never quite define what severe is. In the remanufacturing industry we know the real severe duty is the soccer mom in her minivan making 8 short trips a day.

All this on account of engine sludge. It's hard to believe how such a small, and largely preventable situation, can lead to big problems.

# JASPER Uses Induction Heating in Gas Assembly

JASPER has said goodbye to the gas fired furnace as part of the connecting rod/piston assembly process. In its place is an Ameritherm heat induction coil and RF power supply. The heating unit, coupled with an electronic timer, is used to assemble connecting rods with a more accurate control of the heat.

“It’s important we keep our heat to 400°F on the eye of the rod,” says JASPER Quality Technician Chuck Lynch. “That’s very hard to do with a gas-fired furnace, as temperatures can range from 275° to as much as 500°.”

A gas-fired furnace applies heat directly to the connecting rod. But with induction heating, the heat is actually produced within the rod itself by circulating electrical currents. The part never comes in contact with a flame. And since the heat is transferred to the rod by electromagnetic waves, there is



***The induction heating coil, coupled with an electronic timer, is used to assemble connecting rods with a more accurate control on the heat.***

no product contamination.

The basic components of the induction heating system are an RF power supply, a copper induction coil, and the material to be heated or treated. In this case, a connecting rod.

The RF power supply sends alternating current (AC) through the coil, generating a magnetic field. When the connecting rod is placed in the coil and enters the magnetic field, circulating eddy currents are induced within the rod. The currents flow against the electrical resistivity of the metal, generating precise amounts of localized heat without any physical contact between the coil and the connecting rod.

The power supply is attached to a timing device set to 13 seconds. By using the timing device, JASPER knows exactly the amount of energy being induced into the eye of the connecting rod.

“We have seen a need for the heat induction device for problematic engines,” says Lynch, “where wrist pins come loose and go through the cylinder wall.”

Not only has the device given JASPER a more accurate control of heat on the connecting rods, it has also increased productivity. “The RF coil is very user-friendly,” says Lynch. “The Associate inserts the rod into the coil, then steps on a foot pedal to activate the coil and timing device. The Associate knows that in 13 seconds, they will assemble the piston and connecting rod together.”

## Don’t Forget The VIN When You Order

When you call JASPER, you’ll hear a request for the Vehicle Identification Number (VIN) more and more. Using the VIN can save you time and money as you place orders with us.

I’m sure you’ve heard of customers who swore they had a ‘98, when it was actually a ‘97 with a completely different engine or transmission. We want to make sure your installation goes smoothly and your customer gets precisely what he or she needs the first time. So it’s essential that we have accurate information, and the VIN is the best starting point.

Just give us the full 17-digit VIN from your customer’s vehicle, and in most cases we’ll know exactly what JASPER product you will need. You

can even look up most products online through JASPER’s electronic catalog, and using the VIN makes the process faster and more accurate. When you use the VIN, you actually don’t have to enter anything else - the catalog will automatically fill the correct make, model, year and engine size for you and show you the products we have available for your application.

The VIN doesn’t always tell us everything, so occasionally we may need to ask one or two additional questions (such as the transmission tag number or differential assembly code in some cases) but even then, using the VIN will help us make sure we have the Perfect Product for your customer’s vehicle.

# Coated Bearings from Federal-Mogul

By Matt Barkhaus, Engine Bearing Product Planner, Federal-Mogul Corporation

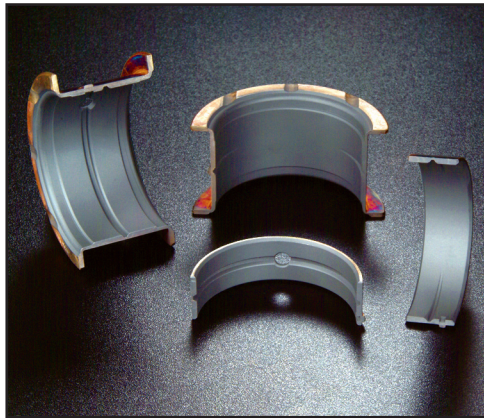
## Matt Barkhaus

*has 25 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, thrust washers and connecting rods.*



### Design Features - Crush and Chamfer

Speed-Pro bearings have additional crush built into the design. Crush refers to the press fit resulting from having the bearing extend slightly above the housing bore when it is in set in place. By increasing the surface contact between the bearing and bore, crush helps compensate for bore distortion and aids heat transfer. Racing crankshafts employ large diameter “fillet radii” where the journal meets the counterweight. This rounded inside corner increases crankshaft strength, but can interfere with the bearing. Many performance bearings feature larger “chamfers” providing the side clearance necessary.



### 3/4 Oil grooves – the best solution for race engine durability

Racing bearings must perform flawlessly under severe stress. The oil grooves in main bearings provide lubrication to the rods. Variations range from no grooves at all, to “full grooves” machined around the internal circumference of the bearing. The greater the surface area, the more load a bearing can handle, but without adequate oiling, the rod bearings will fail. Federal-Mogul engineers pioneered the **3/4-groove design**, which maintains the full surface area in the most highly loaded portion of the main bearing, while permitting improved oil flow to the rod bearing. This unique design gives the best of both worlds - ultimate high strength with improved lubrication characteristics.

### Contoured flange design

Federal-Mogul engineers also developed the patented contoured flange bearing which uses a series of formed ramp and flat hydrodynamic profiles on the flange surface. Speed-Pro main sets include this unique flange bearing, which greatly

increases the thrust load capacity of the bearings. The hydrodynamic profiles, channel oil onto the surface of the thrust face. Race applications using high clutch loads, or frequent “on and off” throttle transitions benefit from this innovation.

### The latest in advanced bearing technology - DUROSHIELD, Coated Bearings

Speed-Pro has consistently delivered the latest technology in performance engine bearings. Our engineers have taken the next step by offering the first coated engine bearing program tested and backed by a major engine parts manufacturer. Speed-Pro DUROSHIELD coated bearings deliver all the performance and race winning durability found in our traditional race parts, plus unique additional benefits derived from the specialized polymer coating.

With a micro-thin unique enhanced molybdenum disulfide in a polymer base, the coating’s hydrophilic matrix becomes part of the bearing, absorbing oil for high lubricity and low friction. You get an added level of protection from potential damage caused by dry starts or interrupted lubrication. The coating is applied using a precisely controlled application process to insure excellent coating adhesion - - verified by both microscopic analysis and real world testing in some of the most extreme race conditions imaginable.

### Speed-Pro Coated Bearings Bring Added Insurance to Performance Engines

Speed-Pro DUROSHIELD coated bearings offer a new option for the performance engine builder and their customers who want to avoid unwanted wear in a newly built performance engine. The exclusive DUROSHIELD polymer coating helps minimize friction.

Other key features of Speed-Pro Competition Series engine bearings are Federal-Mogul’s super strong H-14 overlay material, patented contoured flange design — significantly increasing oiling efficiency and thrust-load capacity — and three-quarter-length oil grooves.

When selecting bearings, engine builders commonly focus on getting the proper clearances and maintaining adequate oil pressure. In street driven applications there are a number of materials that will do an excellent job. Each has advantages in terms of resistance to corrosion, rate of wear, and fatigue strength. The latter characteristic is critical in racing engines that operate under high loads, generate considerable heat, and may be subjected to detonation. Sealed Power engine bearings are available in a variety of materials able to meet any application demand. In addition, Federal-Mogul offers a line of performance engine bearings under the Speed-Pro, brand name. These performance engine bearings are specifically engineered to withstand punishing racing conditions.

### H-14 Alloy - Speed-Pro Bearings (when strong is better than pretty!)

The H-14 lining material found in Speed-Pro bearings was specifically developed for high performance applications, and has a far greater load capacity than any other material. The lining is bonded to an extra high strength steel backing. You won’t see the traditional white/gray color on a set of Speed-Pro bearings because the flash tin plate process has been eliminated. Flash tin plating enhances cosmetic appearance and provides a measure of break-in protection, but it may migrate across the steel back under racing conditions and cause undesirable high spots on the I.D. of the bearing. The tin may also migrate into the lining material, reducing its strength.

# Chad Morgenthaler Joins The JASPER Fishing Team

Before competing professionally, Chad Morgenthaler was a 13-year veteran of the fire service where he served as a fire-fighter, captain and an arson investigator. Prior to fighting fire, Chad's first career was an automotive technician where he specialized in transmission repair.

"I'm very proud to represent a company like Jasper Engines & Transmissions," says Morgenthaler. "I feel that I have come full circle, especially since my first career as an automotive technician. It just seems like a natural fit for Jasper Engines and Transmissions to be one of my major sponsors."

A native of Coulterville, Illinois, Chad is a three-time Bassmaster's Classic qualifier. He qualified for the Bassmaster Elite-50 tour during his first year of eligibility where he finished seventh in the overall point standings. His seventh place finish in the Elite-50's earned him a berth in the 2005 and 2006 Bassmaster Classics.

## Stren Series 2006 Southeast Division Remaining Schedule

March 15th-18th: Lake Eufala, Eufala, AL

April 19-22: Santee Cooper, Manning, SC

## 2006 FLW Tour Remaining Schedule

March 1-4: Pickwick Lake, Florence, AL

April 5-8: Beaver Lake, Rogers, AR

May 10-13: Kentucky Lake, Benton, KY

June 21-24: Lake Champlain, Plattsburgh, NY

August 2-5: FLW Tour Championship, Logan Martin Lake, Birmingham, AL

## 2006 FLW Series Schedule

March 8-11: Lake Lanier, Atlanta, GA

May 3-6: Lake Cumberland, Somerset, KY

May 31-June 3: Old Hickory Lake, Nashville, TN

October 11-14: Lake of the Ozarks, Ozark, MO

November 15-18: Smith Lake, Cullman, AL

## 2006 Bassmaster Classic

February 24-26: Lake Toho, Kissimmee, FL

April is National Car Care Month.



**Be Car Care Aware™**

Treat your customers to a JASPER remanufactured product!



## Schedule To Attend JASPER's Technical Clinics

Because of the today's advancements in automotive technology, it has become increasingly important for new advanced technical training to maintain your customer's vehicle, and your customer's confidence that you're doing the job right.

That's why JASPER, working with our nationwide customer base, has developed technical courses dealing with strategies for gas engine, diesel engine and transmission diagnostics.

The JASPER Technical Clinics are not sales programs. Your technician will have the opportunity to apply the new diagnostic strategies they have learned either in a classroom setting, or on a live-run vehicle.

The gas engine course focuses on electrical diagnosis that empowers your technician to troubleshoot problems twice as

fast as OE recommended procedures.

The diesel engine course deals with electrical concerns, fuel systems and cooling issues. It also covers current diesel engine problems that could cause expensive rework issues.

The focus of the transmission course is to quickly learn if problems are transmission or vehicle related. If the problem is vehicle related, the trainer will show you how to pinpoint the problem. You will solve electrical issues in half the time of OE recommended procedures.

JASPER schedules these technical programs across the country. And if you are not 100% satisfied from these clinics, JASPER will provide you a full refund of your class fees.

For more information on the gas, diesel or transmission diagnostic courses, log onto [www.jasperengines.com](http://www.jasperengines.com) or contact your JASPER factory representative.

# JASPER'S 2006 NASCAR GETAWAY



## EXPERIENCE IT

**One Race Day Ticket • One Race Day Hospitality Pass  
Special Gift • One Race Day Behind-the-Scenes Experience  
for any one of the race dates listed below!**

**Bristol Motor Speedway - Bristol, TN .....March 26, 2006**  
**Texas Motor Speedway - Ft. Worth, TX ..... April 9, 2006**  
**Dover International Speedway - Dover, DE ..... June 4, 2006**  
**Indianapolis Motor Speedway - Indianapolis, IN ..... August 6, 2006**  
**Bristol Motor Speedway - Bristol, TN ..... August 26, 2006**

Each package is valued at \$350.00 and is available to you for only \$125.00 and the proof of purchase of five engines, transmissions, differentials and/or stern drives. Purchases must be made between October 1, 2005, and October 21, 2006. Package(s) do not include transportation or lodging and must be redeemed 30 days prior to the race you plan to attend. JASPER is not responsible for rain dates or cancellations. All reservations will be confirmed in writing. To redeem package(s), submit copies of your invoices, along with a check for \$125.00, to:

Jasper Engines and Transmissions  
Attn: Jasper/NASCAR Promotion  
P.O. Box 650 • Jasper, IN 47547-0650  
1-800-827-7455 • [www.jasperengines.com](http://www.jasperengines.com)

Hurry while supplies last! Packages are subject to ticket availability.  
Be sure to read an upcoming issue of the JASPER News and Updates for more details!

Available only to businesses whose policies do not prohibit such programs.

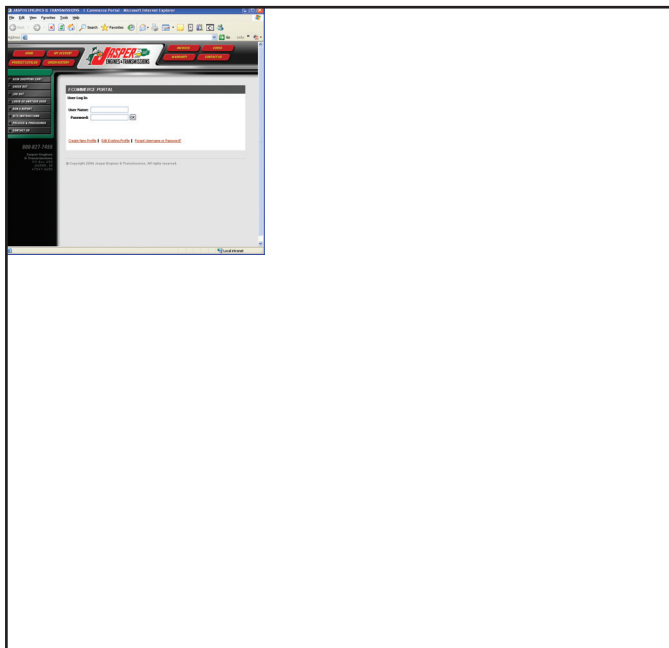
# JASPER Web Site To Offer Fully Customized E-Commerce Portal

Starting February 23rd, JASPER will offer a fully customized E-Commerce Portal Solution to its entire customer database.

The Portal allows customers to place orders online, as well as check account information, history, inquiries, invoices and warranty cases. In addition, customers can see outstanding cores that need to be picked up and schedule them for pickup, all within the Portal.

The Portal has been developed as a response to customer requests for an all-in-one personalized commerce area, with all the information the customer would normally wish to call for at their fingertips, all 24-hours a day and seven days a week. All the customer needs to do is create a username and password profile for their account to use on the Portal and log on.

More information is available on the JASPER Web Site, available at [www.jasperengines.com](http://www.jasperengines.com). Access to the Portal will be available through both the "Installer" and "Fleet" links on the left toolbar of the site, and the existing "Find A Price" area of the site for Installers and Fleets.



**Customers must create a username and password to access the JASPER E-Commerce Portal.**



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