

News & Updates



September 2001

Inside . . .

Customer Profile: <i>Community Car Care</i>	pg. 2
On The Technical Side: <i>Torque & Clamp Load</i>	pg. 3
En Goy: <i>The Doctor Is In</i>	pg. 4
We Are All in Sales and Customer Service	pg. 5

Published by:
Jasper Engines & Transmissions
P.O. Box 650
Jasper, IN 47547-0650
Phone: 1-800-827-7455
Fax: 1-812-634-1820
www.jasperengines.com

Join The Car Care Council At Group Rates

Jasper Engines and Transmissions has been involved with the Car Care Council for a number of years. Besides being members, we have sponsored the Certified Inspection Program and two company associates serve on Council boards.

For years, the Car Care Council has worked tirelessly to educate the consumer about the benefits of having routine maintenance performed on their vehicles. The CCC, like many organizations, is continually looking for ways to attract new members and build the strength of their organization and their message.

Membership for service providers has always been very reasonable at a cost of \$75.00 per year. Recently, the Car Care Council has developed a Service Provider Group Membership Program. Jasper Engines and Transmissions is pleased to offer this program to you. Through this group membership, your annual membership fee has been reduced to only \$18.00 per year. As a Car Care Council member you'll receive:

- * Affiliation with a well known, hard working consumer education based organization.
- * Four issues of the Car Care Corner. The Car Care Corner is a quarterly production of 8 pages full of editorials and illustrations from the Car Care Council. Member service providers may use this information as waiting room material or reprint the editorials in the newsletters they publish for their customers. (A great way to keep in touch and build

strong relationships with your customers.)

- * Four issues of the Car Care Quarterly. Through the Car Care Quarterly newsletter, the Car Care Council updates members on Council activities and what other companies are doing in the area of consumer education.

- * A 20% discount on Car Care Council materials.

In addition to the above benefits included in the annual membership of \$18.00, CCC members can choose to purchase such useful items as the Event Planner which outlines everything needed to plan car care promotions; consumer education brochures to build good will with your customers; radio scripts from On the Air With Car Care; and the Car Care Supplement which contains additional editorial and illustrations great for the waiting room or customer newsletters.

Well-educated consumers make better customers. The Car Care Council teaches the benefits (safety, environmental and financial) of maintenance and repair. They have been doing this since 1968 through programs such as:

- * The CAR (Consumer Automotive Repair) Show - a national call-in radio show
- * Its web site - www.carcarecouncil.org
- * National media mailings
- * National Car Care Month
- * Consumer brochures

(continued on page 4)

Community Car Care

The Chicago, Illinois, suburb of Countryside is home to Community Car Care. The facility has conducted complete auto and light truck repair at its 9675 West 55th Street location since it was founded in 1994.

The owner, William Spencer of Spencer Industries Inc., came from a non-automotive background. Spencer was a 1988 graduate of Regis University in Denver, Colorado, and earned Bachelor of Science degrees in Economics and in Business Administration.

Between 1989 and 1994, Spencer was a commodity trader at the Chicago Board of Trade. Spencer purchased Community Car Care in February of 1994. He retained the services of the previous owner for a year and a half to gain experience in running a large automotive repair shop.

Community Car Care's six service bays cover all repairs, from tune ups and brakes, to shocks, alignment and oil changes. There are five employees at the facility, and two of them are ASE certified technicians. Spencer says the company pays all expenses for their employees to further their automotive education. Spencer's employees recently participated in a JASPER sponsored clinic on transmission diagnostic training.

Though the physical size of Community Car Care has re-



Spencer's dog Nikita gets her car serviced at Community Car Care in Countryside, Illinois.

mained the same, the business side of the company has grown by 50%. Spencer's hands-on ownership of the facility, and his special touches on customer service certainly contribute to this successful business. Those special touches include "Thank You" cards for customers, along with recommendations for future service. Spencer also sends out "Where Are You" reminders to customers that have not been seen lately.

Community Car Care can also contribute their success to the use of JASPER quality remanufactured products. In the past two years, Spencer has used JASPER engines, transmissions, differentials, and transfer cases. Spencer uses JASPER, "because JASPER is the best," he says. "We only use the best products available in all of our repairs."

Spencer is looking toward a possible second shop in the future. His use of JASPER products and his "Do It Right The First Time" philosophy means continued growth of Community Car Care.



Community Car Care in Countryside, Illinois, provides full-service car and light truck repair.

On The Technical Side: Torque & Clamp Load

By Kennet DeJesus
JASPER Engines & Transmissions Research & Development

Kennet DeJesus

has been an associate with JASPER since May of 2000. He is a graduate of



Purdue University, holding a Bachelor of Science degree in Mechanical Engineering Technology. Kennet recently held summer internships with Roush Industries and Navistar before coming to JASPER to work in Research and Development.

Bolted joints are the primary means of fastening in today's automobiles. Many modern day vehicles are reported to have as many as 4,000 bolted joints. Although there are many ways of fastening two or more structures together such as welding, rivets, adhesives, or interference fits; bolted joints are most commonly used for their ease of assembly, ability to be adjusted, strength and serviceability.

Many factors play heavily in the success or failure of a bolted joint. Terms such as clamp load, applied torque, friction coefficient, and bolt tension are commonly used to describe the mechanical properties effecting a bolted joint's success. Other critical engineering factors that must be considered when a joint is designed are application, mechanical loads, geometry, environment and service life.

Understanding the principle relationship between torque and clamp load is sufficient for most technicians to assemble a successful joint, assuming it was originally engi-

neered correctly. Torque is the term most commonly used when tightening the head of a bolt or nut. Torque can be measured in: Foot Pounds (FT-LB), Inch Pounds (IN-LB), Newton Meters (N-M), Centimeter Kilograms (CM-KG), and so on. Torque can also be expressed mathematically as: $T = F * d$. But what does this mean?

As the head of a bolt is turned with a wrench, the force applied (F) on the wrench's handle at a distance (d) from the center of the bolt produces torque (T). An example of this can be seen in Figure 1. As the applied torque turns the bolt, the engaged threaded portion of the bolt pulls the bolt one thread pitch distance with each turn. Once the bolt's head touches the joint surface, the frictional forces between these two surfaces will begin to resist the applied torque.

Additional torque from this point is also resisted by bolt stretch. The increased torque produces clamping forces and tensile load in the body of the bolt. As a tensile load is generated in the bolt and clamp loads increase, the friction forces at the contact points (which are between the bolt head and joint surface and between the bolt and joint threads) also increases proportionally.

Applied torque would refer to the 65 FT-LB applied to an early 5.7L Chevy head bolt when installing a cylinder head. The thread pitch distance refers to the 7/16 in 14 NC head bolts used for this application. Surface friction coefficient is controlled as much as possible through the use of a lubricant under the head of the bolt and on the threads, as well as checking the condition of the threads both on the bolt and in the block prior to installation.

Using the 5.7L Chevy as a model for explanation adds another factor

at this point due to the head bolts going into the water jackets. The sealer used on threads will likely have a different coefficient than the lube under the bolt head adding another variable into the equation. The condition of the threads in the block and on the bolt will again add variables between applied torque and actual clamp load. The end resultant clamp load is the glue that will bind the 5.7L Chevy's cylinder head, gasket, and block together. The 65 FT-LB of applied torque will not equate to the proper clamp load if the variables of the equation are not correct (i.e. bad threads, improper bolt head/thread lubrication, etc.).

What is clamp load and how is it obtained?

(Continued on Page 5)

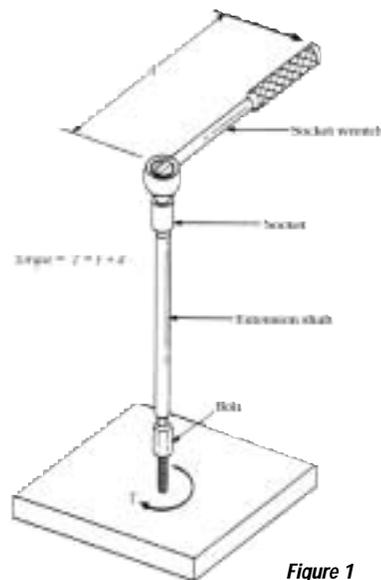


Figure 1

En Goy: The Doctor Is In



En Goy performs a Perfect Product Audit at JASPER's import remanufacturing facility in Bellingham, Washington.

Originally from Cambodia, and living in Canada, Enghor Goy is a bright man with an incredible depth of automotive knowledge. Goy is the "surgeon" in the charge of the *Perfect Product Audit* at JASPER's

import remanufacturing facility in Bellingham, Washington.

In his "practice" every day, En Goy randomly selects an engine ready for delivery to a customer. He and others take it to the "clinic" where he disassembles it, examining every tiny detail for any imperfection. His purpose is not to discover flaws in an engine, but in assembly or remanufacturing procedures. He isn't trying to expose mistakes or the people who made them, but rather, lapses in training, unclear or conflicting procedures or specifications that need to be corrected or improved upon.

Each week the results of the Perfect Product Audit are discussed with team leaders and supervisors. And even when the news is bad, it's

good, because JASPER has identified something we can improve or change to prevent from happening again. The entire process is geared toward delivering a product that completely satisfies the customer who, after all, pays all the bills.



This is the Operating Room of En Goy, where he performs his Perfect Product Audits.

(Car Care Council Cont'd)

We encourage you to consider this great opportunity to become a member of such a prestigious organization. Your affiliation with the Car Care Council and use of the benefits your membership provides, can only

serve to help you build valuable customer relationships, and along with those relationships, repeat and new business.

To take advantage of this low cost membership opportunity, please complete the attached membership application and send it along with your

check for \$18.00 made payable to the Car Care Council, to Angie Evans, Jasper Engines & Transmissions, P.O. Box 650, Jasper, IN 47547-0650. Checks and sign-up forms must be received in our office by November 30, 2001 to be eligible for this group membership program.

Yes! I would like to join the Car Care Council under the Group Membership program. Enclosed is my check for \$18.00 made payable to the Car Care Council.

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone Number _____

Fax Number _____

e-mail _____



P.O. Box 650 Jasper, IN 47547-0650



(Torque & Clamp Load Cont'd)

Clamp load is the force exerted onto the surface of the head gasket of our 5.7L Chevy. As torque is applied to the head of the bolt, it actually stretches elastically as the turning threads work to pull the bolt deeper into the block. The resulting stress within the bolt is called a tensile stress. The reaction of the bolt to this tensile stress is that the bolt's head pulls down on the cylinder head while the threads pull up on the block.

These forces from the bolt's head and threads act like a clamp forcing the cylinder head and block together, with the head gasket in-

between. A mathematical expression of the head bolt (7/16 ñ 14 NC, SAE grade 8), the applied torque (65 FT-LB), and friction coefficient (0.16) should yield a minimum clamp load of 10,500 lbs. to the head gasket surface to have a successful joint.

The relationship between applied torque and clamp load is the key to the joint's success. If bad threads or improper lubrication conditions exist, then the specified applied torque (65 FT-LB in this example) will not turn the bolt far enough to exert the required amount of clamp load on the joint. In the example of our 5.7L Chevy this would mean that the head gasket would not seal

properly, resulting in a leaking or blown gasket. Conversely, if too much torque is applied to the bolt, then the clamp load will be excessive, resulting in possible distortion of the mating surfaces and our gasket would again fail.

This delicate balance between applied torque and clamp load revolves around the variables we've discussed as well as many others. A basic understanding of the fundamental properties involved combined with using the correctly designed parts and a proper assembly method will result in the desired clamp load and a secure joint.

We Are All In Sales & Customer Service

By Zach Bawel - JASPER Vice President of Sales

Zach Bawel

is a graduate of Indiana University with a Bachelor of Science degree in finance. He

joined Jasper Engines & Transmissions in 1987 as a sales representative. Bawel later became Branch Manager of the company's Baltimore location, was named General Sales Manager in 1991 and was named Vice President of Sales in 2001.



It doesn't matter what position or title you hold, every person in your business must think of themselves as being in sales and customer service, whether they are in front of customers or not.

A customer's perception of the quality of service you provide will be positively or negatively effected by the people and environment they come in contact with. Every associate, from

the technician, to the part time help, must be trained in the importance of providing exceptional customer service and treating customers the way they would want to be treated.

It's the relationship you develop with your customers that will determine your success. Everyone will be trying to steal your customers with a lower price. Your biggest opportunity is to build strong relationships with value. That value may include providing a clean comfortable waiting area, or a rental or loaner car while the customer's car is being fixed. It may be having properly trained technicians with the diagnostic equipment to fix the car correctly, the first time. It may be listening to the customer completely and making sure you truly understand their needs, or it may be as simple as being friendly, courteous and polite in thanking them for their business.

You know what separates your business from the other repair facilities, and it's up to you and your staff to show customers the value you provide them. As my Grandma use to say, "If you've got a good trumpet, blow it and show it!" And your actions will speak louder than words.

JASPER Wins Indiana State Fair Balloon Race

The Jasper Engines & Transmissions sponsored hot air balloon took top honors this year at the Indiana State Fair.

The balloon, owned by Travis Vencel of TJV Balloons of Bloomington, Indiana, bested a field of 27 competitors in the 26th annual Giant Hot Air Balloon Race. The race kicks off the State Fair each year.

The balloon holds 69,000 cubic feet of hot air when fully inflated. Two propane burners emit 30-million BTU's of heat to keep the balloon aloft.



The JASPER sponsored hot air balloon can be seen at various outdoor events in the Midwest.



JASPER ENGINE AND TRANSMISSION EXCHANGE
815 Wernsing Road · P.O. Box 650 · Jasper, IN 47547-0650
e-mail: sales@jasperengines.com

Prst. Std.
U.S. Postage Paid
Permit 49
Jasper, IN 47546

JASPER Branch & Distributor Locations



* Denotes Distributor

Florida:

ORLANDO*: 1-800-727-4734

Georgia:

ATLANTA*: 1-800-727-4734

Illinois:

CHICAGO: 1-800-827-7455

Indiana:

JASPER: 1-800-827-7455

CRAWFORD: 1-800-827-7455

INDIANAPOLIS: 1-800-827-7455

Maryland:

BALTIMORE: 1-800-827-7455

Massachusetts

SOUTHBOROUGH (Boston):

1-800-827-7455

Michigan:

GRAND RAPIDS: 1-800-827-7455

ROMULUS (Detroit): 1-800-827-7455

Minnesota:

ST. PAUL: 1-800-827-7455

Missouri:

KANSAS CITY: 1-800-827-7455

ST. LOUIS: 1-800-827-7455

New Jersey:

FAIRFIELD: 1-800-827-7455

New York:

TONAWANDA (Buffalo)

1-800-827-7455

North Carolina:

GREENSBORO*: 1-800-476-8270

Ohio:

CINCINNATI: 1-800-827-7455

CLEVELAND: 1-800-827-7455

COLUMBUS: 1-800-827-7455

Pennsylvania:

BRISTOL (Philadelphia):

1-800-827-7455

PITTSBURGH: 1-800-827-7455

South Carolina

COLUMBIA*: 1-800-727-4734

Tennessee:

CHATTANOOGA: 1-800-827-7455

KNOXVILLE: 1-800-827-7455

MEMPHIS: 1-800-827-7455

NASHVILLE: 1-800-827-7455

Texas

GRAND PRAIRIE (Dallas):

1-800-827-7455

Virginia:

RICHMOND: 1-800-827-7455

Washington:

BELLINGHAM* (Seattle)

1-800-827-7455

West Virginia:

SOUTH CHARLESTON*:

1-800-766-0601

Wisconsin:

NEW BERLIN (Milwaukee):

1-800-827-7455