

THE OFFICIAL BRAG® COMMUNICATIONS SOURCE

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FUEL

THINK SPRING!
WITH BUELL'S NEW PRO
SERIES SUSPENSION
PAGE 10



The rider featured is a professional stunt rider performing in a closed controlled environment. Please do not attempt to duplicate this stunt.

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erik buell

Well, I just came back from the winter dealer meeting, and I have to say it was really fun. We have many dealers who are very passionate about Buell, and it was cool to hear the stories of Buell excitement from around the world. The numbers say it was a record year for sales; what I heard was that it was also a record year for fun!

But, it all starts here in southeastern Wisconsin, the home of Buell motorcycles, and I am definitely looking forward to the Homecoming event this year. It's going to be the largest gathering of Buell riders ever, and, as always, it will be made up of the most passionate and adventuresome among them.

The Buell staff really enjoys this event because they get to meet the people who ride our bikes and hear their great stories. It's definitely true that we are proud of the Buell motorcycles we build. However, although the technology, workmanship, and quality come from our hands, the real pride comes from the joy our riders get from our hard work. If you come to this event, you will see and hear this for yourself – straight from the folks who made your bike.


It's going to be a fun and memorable experience for everyone. Great riding, building and renewing friendships, plenty of bench racing, touring the world's coolest "toy" factory, and then watching top-level racing at Road America. Come and join us in this celebration!

Erik Buell



Peggy S. Uthall
FUELL[®] Editor / BRAG[®] Manager

Peggy Lamb
Director, Rider Groups

 GS Design, Inc., Design and Production

WE CARE ABOUT YOU! Ride safely, respectfully, and within the limits of the law and your abilities. Always wear an approved helmet, proper eyewear and protective clothing, and insist your passenger does too. Never ride while under the influence of alcohol or drugs. Know your Buell[®], and read and understand your owner's manual from cover to cover.

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IN THE MOTORCYCLE WORLD, YOU NEVER FEEL LIKE YOU REALLY KNOW SOMEONE UNTIL YOU'VE RIDDEN WITH THEM. SO, IN THE INTEREST OF GETTING BETTER ACQUAINTED WITH SOME OF THE MANY RACERS WHO ARE MAKING THE BUELL® FANS SO PROUD, **FUELL®** INVITES YOU TO SPEND SOME QUALITY TRACK TIME (FIGURATIVELY SPEAKING) WITH THIS ISSUE'S FEATURED RACER.

fastrack schedule

Formula USA™ Schedule Thunderbike Series

March 2-6	Daytona International Speedway Daytona Beach, Florida
April 23-24	Road America Elkhart Lake, Wisconsin
May 28-30	Summit Point Raceway Summit Point, West Virginia
June 17-19	New Hampshire International Speedway Loudon, New Hampshire
June 24-26	Virginia International Raceway Alton, Virginia
August 12-14	Barber Motorsports Park Birmingham, Alabama
September 10-11	Autobahn Country Club Joliet, Illinois
October 19-23	Daytona International Speedway Daytona Beach, Florida

(Dates are subject to change. Check out www.formulausa.com for Formula USA schedule updates.)

Canadian Thunder Series

May 20-22	Shannonville Motorsport Park (Pro Track) Shannonville, Ontario
July 15-17	Mosport International Raceway Bowmanville, Ontario
August 5-7	Atlantic Motorsport Park Shubenacadie, Nova Scotia
September 2-4	Shannonville Motorsport Park (Long Track) Shannonville, Ontario
September 9-11	Le Circuit Mont-Tremblant Mont-Tremblant, Quebec

(Dates are subject to change. Call Deeley's House of Buell at 604-299-3278 or check out www.buell.ca for final confirmation of this schedule.)

A Few Laps with **ARTHUR**

SMOOTH = FAST

For a guy who delivered four different CCS racing championships for Buell in 2004, Arthur Diaz isn't exactly what you'd call satisfied. Everybody knows hindsight is 20-20, and that's what makes looking back on last season so difficult for Diaz. Instead of seeing four championships won, he sees the potential for what could have been so much more.

"I gave everyone a two-race head start," he says, almost self-mockingly. But that wasn't his fault, of course. At the time, his plan was simply to make a run at the Summit Point track championship, which seemed like a realistic goal – all things considered.

Diaz had never before raced a Buell. In fact, his ending up on one after 17 years of racing Japanese water-cooled four cylinders was something of a coincidence. "I've always been very loyal to my sponsors," he says. "But a year after I won my first Expert Championship on a Yamaha, my sponsor decided to get out of racing." So Diaz freelanced for a year. "It was great because I could do whatever I wanted," he explains.

One day, he walked into the Susquehanna Valley Harley-Davidson dealership – "just to look at bikes." What he found was a sponsor. The guy working the parts counter was not only a friend of his, but also itching to start a race team. It wasn't long before he and Diaz did just that, recruiting mechanic Rodger Martin and two



Diaz

bikes (nicknamed Pepe and El Toro). But just as quickly, they hit a speed bump: Their team captain jumped ship.

"It was too bad because he had to move," explains Diaz. "So before we even got to the first race ... before the bikes were ready, all of a sudden it's down to me and Rodger ... and there's a lot of work that goes into getting a bike ready to race."

The setback is what caused Diaz to miss the first two races, but he knew his day would come. And that it did. His first weekend racing Pepe, Diaz won a couple races. The following weekend, Diaz debuted El Toro ("the fast bike") at the Formula USA™ races and won again – three races, plus a couple second places in the club races. Successful already, Diaz wasn't sure about entering the Thunderbike class, but did so after all, even though he couldn't afford to put a brand new set of tires on for the qualifying round.

After a few laps, Diaz came in and his bike needed to be weighed and Dyno tested. "El Toro was about 30 to 40 pounds heavier than everybody else's," he laughs. "And when they put my bike up on the Dyno, it made 83 horsepower. All the other bikes were pretty much up in the hundreds."

What makes that so extraordinary is how well he did in that qualifying round. "Second place," Diaz says. "Apparently, I missed poll position by three 100ths of a second."

When Diaz checked the poll standings, he noticed he was not only winning the track championship, he was leading the overall region as well. "I had only been to two of the four races," he says. When he approached his sponsors with this information, they decided to up their commitment and compete in the entire series. It was a smart decision. "I ended up winning a total of four championships and three out of the four tracks we went to," Diaz says. What he didn't realize was that a lot of overlap exists between classes, and when he checked the point standings at the end of the year, he caught another great surprise.

"I was sitting on a plane somewhere over the Atlantic on my way to Valencia, Spain for the Moto GP races," he explains, "reading through Road Racing, and my eye caught a glimpse of



my name somewhere I didn't expect it to be ... somehow, I was leading the Southeast overall standings!"

Not only that, Diaz narrowly missed winning the Southeast Region track championship by just a few points and almost won a few other Southeast Region class championships ... all without knowing it.

There was one more surprise waiting for Diaz when he returned from Spain – his Susquehanna Valley sponsor decided to stop selling Buell motorcycles. "They've been a great dealership to work with," says Diaz who is now a man without a sponsor. "I'm hoping to find one soon so I can defend my title in 2005."

He also plans to do more than that. "I'm going to win a whole lot more this year, and run the whole series from day one," he says. "Nobody's gonna get a two-race head start on me this time around."

FAST FACTS

Name: Arthur Diaz

Age: 40

Home: Harrisburg, Pennsylvania

Hobbies: Snowmobiling, skiing, hunting, S.C.U.B.A. diving

Started Riding: Age 16

First Bike: 1984 Honda Nighthawk S

Started Racing: 1986

Quote: "Tinted wind screens don't make you go faster."



PRIDE IN NUMBERS

**2005 BRAG® HOMECOMING
WEST BEND, WISCONSIN • JUNE 2-5**

More than twenty years have passed since the first Buell® motorcycle took to the streets. Yet here we are in 2005, and chances are good your Buell motorcycle is still raising eyebrows wherever you take it. Honestly, how many times have you been asked, "What the heck is that thing?" when gassing up or stopped for lunch?

Sure, Buells are considered strange by many – odd, weird ... you've heard them all. They might always be. But you know better. The truth is, they're unique. And if riding them makes us outsiders, then so be it. But there are more of us than you may think.

Be part of the majority for a change and head to Wisconsin this June for the 2005 BRAG Homecoming. There's something special about being the only Buell enthusiast on the road ... but that pride you feel reaches its ultimate when you share company with dozens of other Buell riders. Homecoming is your chance to do just that. Plus, we're offering a two-tiered package deal this year, to accommodate as many of you as we can and get even more BRAG members to show their pride at Homecoming in 2005.

WHERE BUELLERS BELONG

This year, you'll head to West Bend, one of Wisconsin's fastest growing cities located smack-dab between Elkhart Lake, home of Road America, and East Troy, the birthplace of Buell. It's also the doorway to some of the best riding in the state – the Kettle Moraine. You'll start by snaking through the scenic Moraine on Thursday as you head from West Bend to East Troy for lunch at the Buell facility, where you'll eat with the Buell employees in the lunchroom! You'll also get to tour the facility, gaining a first-hand glimpse at Buells as they're made. Then, find your way back to West Bend in time for dinner and the riders' meeting.

Whether you spend most of Friday riding first-gear in the parking lot of West Bend Buell during BattleTrax, or out exploring southeastern Wisconsin's most challenging back roads, the choice is yours. You'll get lunch, dinner, Dyno runs, and entertainment. But most of all, you'll get to wake up Saturday morning knowing the fun is just getting started.

HOME TURF

It's no secret a proper Homecoming means a trip to Road America for the AMA races – even back in the days before BRAG! This is our home turf, and you'll get first-class treatment and a prime place to watch the action unfold. Take a lap around the track and get a taste of what it's like to race on this world-class track. You can also ride the new 2006 Buell demo fleet, enjoy paddock access, and BRAG hospitality during the races on both Saturday and Sunday.

Based on feedback from past events, this year we're giving you the option of registering for the full event or for a weekend-only package. No matter which package proves better for you, your registration to Homecoming includes admission to the AMA races on Saturday and Sunday.

Homecoming is a way of celebrating the uniqueness of Buell motorcycles. It's also a celebration of those who ride them. Register for BRAG's 2005 Homecoming and see what it's like being an outsider in the majority.

The cost is \$100 (full event) and \$75 (weekend only) for BRAG/H.O.G.® members, \$125 (full event) and \$100 (weekend only) for non-members, and \$65 (full event) and \$50 (weekend only) for kids ages 13-17. Call 1-888-432-BRAG to register or fill out the form on the next page. Registration closes May 6.

RACE HOME

BRAG will turn your visit to the AMA races at Road America into the ultimate VIP experience – as if the action itself wasn't already enough to pique your excitement. We've arranged for a special Buell-only parking area that will get you as close to the track as possible, plus storage for your gear inside BRAG hospitality. Both Homecoming packages include a race program, paddock access, a lap around the track, catered snacks and beverages, and more! A proper farewell to a perfect adrenaline-laced weekend.

HOMECOMING SCHEDULE

DATE	ACTIVITY	LOCATION
THUR/JUNE 2	Registration/Check-in	Buell Motorcycle Company, East Troy
	Lunch with Buell Employees/Tours	Buell Motorcycle Company, East Troy
	Dinner and Riders' Meeting	Clairemont Inn & Meeting Center, West Bend
FRI/JUNE 3	Registration/Check-in, BattleTrax, Dyno Runs, and Lunch	West Bend Buell
	Dinner	TBD, West Bend
SAT/JUNE 4**	Self-guided Ride to Road America* BRAG Hospitality at Road America	Elkhart Lake Elkhart Lake
SUN/JUNE 5	Self-guided Ride to Road America* BRAG Hospitality at Road America	Elkhart Lake Elkhart Lake

*Ticket included with registration fee.

**Members purchasing weekend only packages will have their tickets mailed to them in advance with a site map of Road America showing where the hospitality is located.

Dates and locations subject to change.

down the road ... NATIONAL BRAG ADVENTURES

Riding the Rockies Adventure

Littleton, Colorado – August 17-19

Northern Colorado's stretch of land between Denver and Vail may be a bit "rocky," but that doesn't mean the roads aren't smooth. BRAG's 2005 Riding the Rockies Adventure will introduce you to the twisties and switchbacks carved out of the Rocky Mountains between these two cities, not to mention places like Pike National Forest, Arapaho National Forest, and White River National Forest. The adventure begins in Littleton at Rocky Mountain Buell for check-in and lunch, and continues with two days of adrenaline-rushing rides. Look for more information in the next issue of *FUELL*®.

Appalachian Adventure

LaVale, Maryland – October 5-7

Kick things off with a dealer party at Highland Harley-Davidson Shop in LaVale, Maryland, then experience two full days of incredible riding in and around the Appalachian Mountains. The adventure leads through three different states and includes such highlights as Green Ridge State Forest, Rocky Gap State Park, and Garrett State Forest. Look for more information in the next issue of *FUELL*.

PRE-REGISTRATION FORM

THERE ARE THREE SIMPLE WAYS TO PRE-REGISTER FOR BRAG ADVENTURES:

PHONE For credit card registrations, call toll free 1-888-432-BRAG, or 414-343-7824 (outside the U.S.), Monday-Friday, 8AM-4:30PM (CST)

MAIL Copy and complete this form and mail it to:
BRAG Adventure Registration, 3700 West Juneau Avenue, Milwaukee, WI 53208

FAX For credit card registrations, copy and complete this form, and fax it to the 24-hour fax line: 414-343-4515

SPECIAL ASSISTANCE – If you require special arrangements at this event, please submit your written requests in advance to: BRAG Adventures, 3700 West Juneau Avenue, Milwaukee, WI 53208. TTY inquiries: 1-800-242-2464.

****CANCELLATIONS** – PLEASE READ CAREFULLY BEFORE REGISTERING.

Full refunds will be given for written cancellations (including BRAG number and signature) accompanied by a confirmation letter received at the BRAG office by the date listed for each event. After this date, no cancellations will be accepted.

2005 BRAG Homecoming Package Prices and Benefits		Adventure Guide	Commemorative T-shirt	Event Pin/patch	Commemorative Souvenir	Two-day Race Tickets
PRE-REGISTRATION						
FULL EVENT	\$100 BRAG/H.O.G. Members \$125 Non-members \$65 Kids 13-17	•	•	•	•	•
WEEKEND ONLY	\$75 BRAG/H.O.G. Members \$100 Non-members \$50 Kids 13-17	•	•	•	•	•
ON-SITE REGISTRATION						
FULL EVENT	\$100 BRAG/H.O.G. Members \$125 Non-members \$65 Kids 13-17	•	•	•	•	•
CHILD AGE 0-12	FREE!					
Membership not required. Must be accompanied by a registered parent or guardian. Optional event packages for children ages 0-12 may be purchased at the above pre-reg price. *On-site event supplies are available while quantities last.						

# ATTENDING	AMOUNT ENCLOSED	
<input type="checkbox"/> BRAG/H.O.G.® MEMBER	\$ <input type="text"/>	BRAG HOMECOMING • West Bend, WI • June 2-5 BRAG/H.O.G. MEMBER: \$100 FULL EVENT/\$75 WEEKEND ONLY NON-MEMBER: \$125 FULL EVENT/\$100 WEEKEND ONLY KIDS 13-17: \$65 FULL EVENT/\$50 WEEKEND ONLY Registration/cancellation deadline (must be received by): May 6**
<input type="checkbox"/> NON-MEMBER	\$ <input type="text"/>	
	\$ <input type="text"/>	Total US\$ Enclosed
Payment: <input type="checkbox"/> Check/Money Order <input type="checkbox"/> Visa <input type="checkbox"/> MC Cardholder Name _____ <small>(make payable to BRAG)</small>		
Card # _____ Expires _____		
First Person's Name _____ BRAG # _____ Expires _____		
Address _____ City _____		
State _____ ZIP _____ Phone (_____) _____		
E-mail* _____ T-shirt Size: <small>(circle one)</small> S M L XL XXL XXXL		
Second Person's Name _____ BRAG # _____ Expires _____		
Address _____ City _____		
State _____ ZIP _____ Phone (_____) _____		
E-mail* _____ T-shirt Size: <small>(circle one)</small> S M L XL XXL XXXL		
Child's Name _____ BRAG # _____ Expires _____ <small>(if member)</small>		
Indicate whether you want: CHILD T-shirt Size: <small>(circle one)</small> S M L OR ADULT T-shirt Size: S M L XL XXL XXXL		
<small>*E-mail address may be used to send you updated event information and will be kept confidential.</small>		

CENTER OF ATTENTION

WHY BUELL PUTS SO MUCH THOUGHT AND EFFORT INTO: MASS CENTRALIZATION

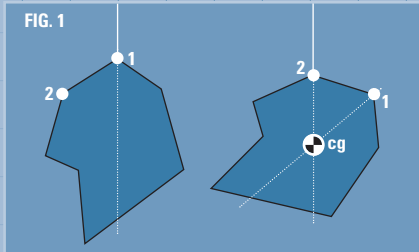
BY ABE ASKENAZI – DIRECTOR OF ANALYSIS, TEST, AND ENGINEERING PROCESS

You've probably read the term a hundred times, and you may have heard it a few dozen more, but do you really know what is meant by the benefits of "mass centralization"? This is such an important concept for Buell, yet we have spent very little time explaining the nuts and bolts of it to our enthusiasts. So, when FUELL® asked Buell Engineering for another technical article, we thought this might be just what the doctor ordered.

So, what is mass centralization? You can probably paint a clear picture in your mind of Buell engineers trying to pack the mass of the vehicle as close to a center as possible. But, what is this center? And, why do we want mass centralization? Let's begin by addressing the first question.

Finding the cg of a Body

What is the center (cg)? The "center of mass" is basically the point about which the mass of the body is evenly distributed. On a planet such as ours, where gravity by its very nature acts on a body in direct proportion to its mass, the center of mass coincides with the center of gravity. This is helpful in providing an easy way to find this center, since by definition the center of gravity ("cg") is the point about which a body is in equilibrium in all positions.



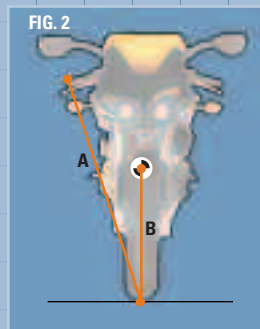
So, how does one find this center? Fundamentally, as shown in Fig. 1, it's as simple as hanging the body from two points (one at a time) and finding the point about which the projected string lines intersect. This works because the body can only reach equilibrium if the center of mass lies directly below the attachment point of the string. Okay, you say, but where should this point be?

Much research has been conducted with regard to the ideal location of a motorcycle's center of mass. Here we'll try to present the basic concepts that this research has yielded. Let's first discuss the ideal height. For this, we'll take a two-dimensional frontal view of the motorcycle, as in Fig. 2.

Effects of Height of a Bike's cg

Picture the bike as an upside down pendulum rotating about the ground. When the rider provides an input to the handlebar, the road will react to this input at the front tire's contact patch and transmit the load back to the vehicle causing it to lean (we'll leave the in-depth discussion of counter-steering for another day). The leverage that the rider has to the road is dependent on the width of the handlebars and the distance that the front tire's contact patch "trails" the intersection of the bike's steering axis and the ground. The important concept here is that this input leverage, for a given bike, is a fixed number.

Let's then simplify this concept by creating a fictitious fixed lever between the rider's hand and the ground, whose length is a fixed



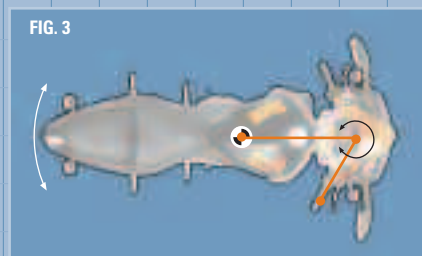
value "a," as shown in Fig. 2. This lever will then be used by the rider to pivot the bike's mass about the ground. Hence, the leverage that the rider has on the bike's mass will be the fulcrum of his input lever vs. distance ("b") between the pivot and the bike's center of mass. Since his input lever is fixed, the closer this center of mass is to the ground, the more leverage he'll exert on it. This is why bikes with a low cg feel so easy to flick around; the rider has good leverage to start, stop, and reverse the roll motion of the vehicle.

Effects of Longitudinal Placement of Bike's cg

What about the location fore-and-aft? This is slightly more complicated, but we can once again try to look at it in simple terms. For this, consider a two-dimensional top view of the bike, as in Fig. 3.

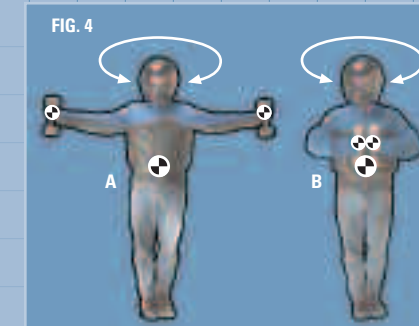
Once again, the rider's input has a fixed leverage to the ground at the front tire's contact patch, but what of the bike's cg? Basically, you can view it like this: the farther back the bike's cg, the more the bike itself will try to drive the vehicle as opposed to the rider. This is why, as you shift the cg of the bike back by overloading its rear, the bike will want to weave more easily – it simply has more leverage to the steering input point of the bike. Have you noticed that packing cargo on your tankbag makes the bike more responsive to your input vs. packing it in saddlebags? Furthermore, since you are feeding the input to the ground via the front tire, you want this contact patch to be firmly planted to ensure that it engages the ground as directly as possible.

So, what do you think happens when a bike is designed with its heavy exhaust system hanging off the tailsection (high and rearwards)? Isn't it obvious that it should be mounted at the lowest and most forward location on the vehicle? It is to Buell.



Why Mass Centralization?

Okay, so the center of mass of the bike wants to be low and forward, but what about its distribution? The concept of mass distribution is known as the object's mass moment of inertia. Look at it like this: take two dumbbells and hold them in your hands tightly against your chest and try spinning your whole body as in Fig. 4a (It's fun to do this with skates!). Next, try it again with your arms extended out to your sides as in Fig. 4b. You'll find that you can spin (and stop the spinning) a lot easier with the mass close to your body (and hence, close to your cg). Note that the mass did not change, nor did the center of mass. What changed was the distribution of the mass about this center.



Mass Distribution Effects on Vehicle Roll Related to Muffler cg Location(s)

Now let's look at the mass distribution about the center of mass of a motorcycle and see what makes sense. Let's again start with a two-dimensional frontal view of the bike and consider that the rider wants to make the bike lean or roll about the ground. We'll call the line connecting the front and rear tire contact patches the "roll axis." Once again, thinking back to the skater example, in order to start and stop the bike's roll about this axis, you want the bike's dumbbells to be as close as possible to the ground (which is where the cg wants to be). So, as we did before, let's consider a bike with its mufflers mounted to the tailsection vs. a Buell, as in Fig. 5. Which do you think will be more flickable?



Mass Distribution Effects on Vehicle Pitch Related to Muffler cg Location(s) and Wheel Weight Values

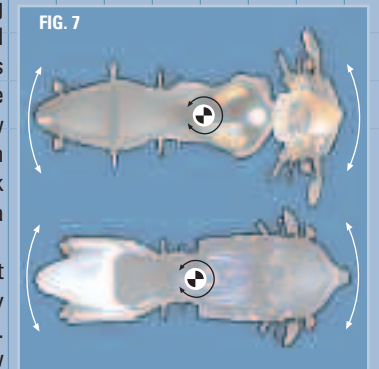
Now, let's move to a two-dimensional side view, as in Fig. 6. When the vehicle goes over bumps, it wants to pitch about its cg – that is, about a "pitch axis" through the cg that would be coming out of the page in this figure. You can imagine that if the bike's dumbbells are far from this axis, the vehicle will have a poor suspension response, since once it starts pitching it will become difficult to make it stop.

So, do you really think it makes sense for the mufflers to be mounted to the tailsection? What about the wheels? Beyond the advantages of the low unsprung weight (which we covered in a previous article), what do you think of the wheels as dumbbells in this figure? If you can't put them in the center, shouldn't they be as light as possible? Follow this logic and you can see why we pick a fairing bracket in magnesium as being more important than an engine cover in magnesium!

Mass Distribution Effects on Vehicle Yaw Related to Muffler cg Location(s)

Finally, let's examine a two-dimensional top view. The reason you want a vehicle to lean or roll is because you want it to turn, and, at speed, bikes only turn when they're leaning. Yet, this turning motion is an animal of its own and it's known as "yaw." Just like pitching, the vehicle yaws about its cg (about a "yaw axis") – and the closer the dumbbells are to the cg, the more readily it turns. You know where we're going with this. I don't even need to ask the question, just take a look at Fig. 7.

Of course, this concept can be extended to every component on the vehicle. Hence, we hope you now understand why Buell takes mass centralization so seriously. With an optimally placed cg, the more we concentrate the bike's mass about this point, the better it will respond to your input (roll), to the turning intent of the roll (yaw), and to the road's input (pitch). And the better the vehicle responds to you and the road, the happier you will be. Enjoy the ride!



See that bright red rear spring on that Buell® XB? Looks kinda cool, doesn't it? But it's not the color that makes it special. That brilliant coil is part of the new Buell Pro Series Suspension for 2005 XB models – just the thing for riders who take their handling seriously.

More than just A Spring of a Different Color



Single-rate compression on the Pro Series rear spring provides more consistent rider feedback.

Not for Everyone

The first thing to realize is that this new system – which includes a new rear spring as well as two replacement springs for the front fork – is that it's not something every rider is going to appreciate. Nor is it for someone looking to turn their current ride into a full-blown race bike.

Rather, the Pro Series Suspension is designed for the rider who wants a little finer feel for the occasional track day or BattleTrax event, but still wants to be able to enjoy relative comfort for everyday riding.

"When we were developing the original Firebolt® XB9R, we worked very hard to get the suspension just right," says Jon Bunne, Test Engineering Manager for the Buell Motorcycle Company. "For a production model motorcycle, that means designing it to fit a wide range of riders and loads. We tried lots of different configurations and came up with one that works extremely well for most riders."

"But there's also a group of riders out there who want something more than the 'average rider' wants," he continues. "Buell riders are not 'average' to begin with, but this new suspension targets the most discriminating riders among them."

Prime Rate

Perhaps the most significant difference between the stock suspension and Pro Series is the rear spring. The stock spring is dual-rate, while the Pro Series rear spring features a single-rate design.

Perhaps a little background is in order here. A dual-rate spring is one that compresses at a different rate at the beginning of the com-

pression stroke than at the end. In the case of the stock XB suspension, the rear spring's initial compression is fairly soft, which improves ride quality, or comfort.

However, as the spring is further compressed, it becomes more stiff. This helps accommodate a bigger load, a passenger, or large bumps in the road. Great for everyday riding, but not the best option on the track.

"On the track, it's all about feedback," explains Shawn Higbee, who, in addition to being a celebrated professional racer, also works as a Test Development Rider for Buell. He spent countless hours developing and testing both the stock system and the Pro Series Suspension. "A skilled rider wants to know what the tires and the track are telling him, and a stiffer spring with a constant compression rate helps get that information to the rider."

The effect of the single-rate rear spring is that the "feel" is much more consistent through the full range of suspension travel. It will actually feel stiffer under light compression than the standard suspension, but looser under heavy loads.

"It's something of a paradox, actually," Jon explains. "The suspension will feel stiffer most of the time, but will actually be easier to bottom out. Which is why we don't recommend it for carrying a passenger."

In other words, you'll feel the bumps a little more. But keep in mind that even the bumpiest racetrack is considerably smoother than most real-world roads. On the track, a soft suspension won't communicate the surface subtleties that racers want to know.

An additional benefit of the single-rate rear spring is that it provides a more consistent front-to-rear balance. The front and rear spring rates are more closely tuned to one another throughout the compression range.

"It's substantially stiffer in the rear, and slightly stiffer in the front, which overall gives the bike a little bit stiffer bias toward the rear," Shawn explains. "This provides better balance and gives the bike

"... there's also a group of riders out there who want something more than the 'average rider' wants ..."

sharper, crisper handling. On the track you'll notice that it steers a little more aggressively and improves the cornering ability."

To be precise (and technical), the front spring compression rate is .9 kg/mm, six percent stiffer than stock (.85 kg/mm), while the rear spring rate is 7.84 kg/mm, a 12 percent increase over the stock spring, which has an initial compression rate of 7.0 kg/mm.

A Custom Fit

To keep the Pro Series Suspension affordable, engineers made sure to design a system that would easily replace the stock springs. They're designed to work well with the existing dampers, so you don't have to replace the whole system, just the springs.

"The stock rebound adjusters will accommodate the spring level," Shawn explains. "Where if you went to a true race setup you would probably need different damping characteristics."

"And you still have all the same adjustments available," Jon adds. "You will have spring preload, compression damping, and rebound damping on both front and rear. So the actual adjuster screw positioning may change, depending on how you're using it."

For details, be sure to consult the information sheet included for recommended settings, which differ from the original equipment recommendations.

What really sets this system apart from aftermarket options is that it was designed by Showa®, the same supplier that engineered the original system. The fit and finish are the same, and the quality and durability standards are just as high.

"We were basically able to custom-make a set of springs that you can more or less just drop in," Jon concludes. "We've done the development and the tuning, so it's pretty easy for someone to install these springs and not have to mess with them very much."

Which means that, in addition to making you faster on the track, you'll also be ready a little faster, as well.



PRO-SERIES SUSPENSION KIT
Two front springs and one rear shock spring.
Fits '05 XB models (except XB12SCG).

48083-04Y

\$76.95

Prices are MSRP US\$. All products may not be available in all markets.

BETTER, CHEAPER ... *FASTER?*

WELL, YOU KNOW WHAT THEY SAY ABOUT TWO OUT OF THREE!

It's not often a manufacturer can come out with a new product and say not only is it much better than the product it's replacing, it's also significantly less expensive. But that's exactly the case with the all-new XB luggage set from Buell.

"Buell has completely refreshed this product line," explains Vince Orange, Category Manager. "These new pieces have a number of features that make them far superior to the old line."

For one thing, they all match – which hasn't always been the case. Each and every piece has been styled to complement not just the other pieces, but also the distinctive lines of the XB motorcycles. So riders can pack up a surprising amount of gear and still turn heads for all the right reasons.

Sturdy, molded UV-resistant, polyester construction. Heavy-duty, waterproof zippers. Expandable compartments. Reflective trim for added visibility. Simple, custom-fit installation. And a very comfortable price point. These are just a few of the features* that set these unique new pieces apart from the old.

They won't get you through the corners any quicker, but they'll put you far ahead of any other available products.

**Not every feature listed here applies to every piece in the collection.*



1 DETACHABLE SADDLEBAGS

- Durable, rigid polyester construction
- UV- and weather-resistant (including waterproof zippers)
- Reflective trim for added visibility
- Expands up to 2"
- Easy to install – detachable in seconds

Fits Firebolt® models.

91310-04Y \$159.95

NEW! Fits Lightning® models.

91458-05Y \$159.95

NOTE: Installing these saddlebags on a Lightning model means you cannot carry a passenger, as the bags will interfere with the passenger's access to the footpegs.



2 NEW! DETACHABLE TRUNK BAG

- Rigidly constructed to maintain shape
- Wide opening for easy access
- Side pockets expand up to 4"
- Sturdy handle for added portability
- Includes rain cover

Fits Lightning models only.

91456-05Y \$109.95

NOTE: This product is designed for use with Lightning models only, and must be mounted in conjunction with the detachable saddlebags (91458-05Y).



3 TANK BAG

- Fits all XB models, including the Lightning CityX
- Expands up to 4"
- See-through map holder
- Removable storage pocket
- Includes rain cover

Fits Firebolt or Lightning models.

91213-04Y \$109.95



4 TAIL BAG

- Rigidly constructed of molded polyester
- Expands up to 2"
- Compatible with saddlebags
- Custom fit for stock seat

Fits Firebolt models.

91210-04Y \$69.95

Fits Lightning models.

91211-04Y \$69.95



5 AIRBOX COVER MASK

- UV- and weather-resistant
- Non-abrasive, fleece-backed vinyl
- Mesh pocket for small item
- Tight, custom fit
- Compatible with airbox cover guard on Lightning CityX

Fits Firebolt or Lightning models.

91212-04Y \$29.95



NEW CLUBS

Buell Riders Adventure Group™ welcomes the following new clubs and their sponsoring dealerships to the family.

Ellington Thunderbike Club

Think Snowmobiles, Inc.
Ellington, CT
860-875-6663
Harold Levesque

Loess Hills Club

Rooster's Buell
Sioux City, IA
712-252-2750
Russ Mayrose

Gail's American Heartland Club

Gail's Buell
Grandview, MO
816-966-2222
Roger Fleener

Belle City Riders

Racine Buell
Racine, WI
262-884-0123
Dean Steger



WEST PENN THUNDERBIKE CLUB

Since the West Penn Thunderbike Club formed in 2002, its membership has risen and fallen, but one thing's never changed – its core group always remains the same. They meet with the West Penn H.O.G. Chapter at Browns Country Kitchen in Portersville, Pennsylvania on the first Sunday of every month (in winter) and at the dealership on the first Tuesday of every month (in summer). Always looking to represent BRAG, West Penn members have participated in several national events such as the Pocono Mountains Adventure, Carving the Northeast Touring Adventure, and Running the Ridge. This year, they plan to attend the 2005 Ohio State H.O.G. Rally and the Super Cycle Weekend at Mid-Ohio Sports Car Course in Lexington, Ohio on July 22-24, wearing their colors proudly. For more information, contact Bill Bomberger at 724-924-2310.

BUELL DEMO FLEETS

Demo rides give you the chance to test ride any number of Harley-Davidson® or Buell motorcycles. Rides are free. Participants must bring a valid motorcycle license, sign a release form, wear closed-toe shoes with a heel strap, and wear a helmet that meets D.O.T. requirements and eye protection. Buell demo riders must also wear long pants and a full-face helmet.

DATES	EVENT/LOCATION	CITY
March 7-12	Daytona Bike Week	Daytona Beach, FL
May 13-15	Sonoma – Vintage Event	Sonoma, CA
May 21-22	Pikes Peak Event	Colorado Springs, CO
June 2-6	Road America	Elkhart Lake, WI
June 22-25	Honda Hoot	Knoxville, TN
July 8-10	World Superbike Races/Moto GP	Monterey, CA
July 22-24	Mid Ohio Sportbike	Mansfield, OH
August 6-12	Sturgis Rally and Races	Rapid City, SD
August 19-21	Copper Mountain Event	Denver, CO
October 20-22	Biketoberfest	Daytona Beach, FL

REGISTERED BRAG® CLUBS

UNITED STATES	DEALER/LOCATION	INFORMATION	CONTACT
Folsom Club	Buell of Folsom, Folsom, CA	916-608-9922	Matt Guidera
Valley Thunder Bike Club	Buell of Fresno, Fresno, CA	559-275-8586	Rich Miller
Golden State Club	Buell of Glendale, Glendale, CA	818-246-5618	Ernie Snair
Rocklin Riders Club	Buell of Rocklin, Rocklin, CA	916-624-9211	Jim Hill
So. California Club	Biggs Buell, San Marcos, CA	760-481-7300	Paul Gambill
Vallejo Club	Buell of Vallejo, Vallejo, CA	707-643-1413	Ed Cianella
Colorado Thunder Club	Rocky Mountain Buell, Littleton, CO	303-703-2885	Dave Croach
Ellington Thunder Bike Club	Think Snowmobiles, Ellington, CT	860-875-6663	Harold Levesque Jr.
Gainesville Corner Club	Gainesville Buell, Gainesville, FL	352-331-6363	Paul Lytle
Lakeland FL Club	Buell of Lakeland, Lakeland, FL	863-802-1971	Donald Huffman Sr.
3% Bragging Rights Club	Stone Mountain Buell, Lilburn, GA	770-979-7999	Cameron Ayer
North Atlanta Club	Buell of Atlanta, Marietta, GA	770-919-0000	Bob Bagaglio
ID Thunder Sport M/C Club	Cycle Nuts & Bolts Buell, Boise, ID	208-338-5599	Scott Gierke
Loess Hills Club	Rooster's Buell, Sioux City, IA	712-252-2750	Russ Mayrose
Waterloo Iowa Club	Buell Cycle Center, Waterloo, IA	319-235-6505	Doug Bruns
Windy City Club	Illinois Buell, Berwyn, IL	877-464-1450	Dave Kiesow
Rondout Riders Club	Lake Shore Buell, Libertyville, IL	847-662-4500	Kevin Kemen
Peoria Club	Walter Bros. Buell, Peoria, IL	309-697-1917	Wayne Wiebler
Hoosier Thunder Club	Buell of Bloomington, Bloomington, IN	812-333-8300	Jeff Stevens
Indy Streetfighters Club	H-D Sales & Service, Indianapolis, IN	317-885-5180	Kathy Schulteti
Bayou Thunder Club	Buell of Baton Rouge, Baton Rouge, LA	225-292-9632	Doug Coles
Bangor Club	Central Maine Buell, Hermon, ME	207-848-5709	Clint Parsons
Baltimore Club	Buell of Baltimore, Baltimore, MD	410-238-2003	Mike Nobile
Washington D.C. Club	Buell of Washington, Fort Washington, MD	301-248-1200	Ken Thomas
Frederick MD Club	Buell of Frederick, Frederick, MD	301-694-8177	Steve Stevenson
Battle Twins Club	American Buell, Ann Arbor, MI	800-234-7285	Denny Schott
Motor City Club	Motor City Buell, Farmington Hills, MI	248-473-7433	Justin Johnson
St. Paul Club	St. Paul Buell, St. Paul, MN	651-738-2168	Warren Fritz
Gail's American Heartland Club	Gail's Buell, Grandview, MO	816-966-2222	Roger Fleener
White Mountain Thunder Club	Meredith Buell, Meredith, NH	603-279-4526	Heather Johnson
New Jersey American Sport Bike Club	Block Industries Supply Company, Highland Park, NJ	732-985-7546	Peter Alesso
O.C. No Clutch Club	Buell of Ocean County, Lakewood, NJ	732-367-7000	Noreen Miller
Bergen County Backroad Dominators	Buell of Bergen County, Rochelle Park, NJ	201-843-6930	Rich Croland
Albuquerque Club	Chick's Buell, Albuquerque, NM	505-856-1600	Chick Hancock
Zia Thunder	Santa Fe Buell, Santa Fe, NM	505-471-3808	Murrae Haynes
STONY Club	Southern Tier Buell, Binghamton, NY	607-773-0264	Tom Burge
Tar Heel Twisty Riders Club	Tilley Buell, Statesville, NC	704-872-3883	Bear Lewis
Lake Erie Club	Lake Erie Buell Shop, Avon, OH	440-934-5000	Mike Stevens
Miami Valley Club	F&S Buell, Dayton, OH	704-872-4227	Jeff Stolzenburg
Lima Area Streetfighters Club	Lima Buell, Lima, OH	419-331-3027	James Seger
Great Circle Club	Centennial Park Buell, Pataskala, OH	740-964-2205	Gregg Blank
Toledo Smokin Wheels Riding Club	Toledo Buell, Toledo, OH	419-843-7892	Paul Criswell
Sunset Thunder Club	Paradise Buell, Tigard, OR	503-924-3700	Mike Durbin
Reading Thunder Club	Buell of Reading, Leesport, PA	610-916-7777	Kevin Kodz
West Penn Thunderbike Club	New Castle Buell, New Castle, PA	724-924-2310	Bill Bomberger
Hawk Mountain Club	Schaeffer's Buell, Orwigsburg, PA	570-366-0143	Dennis Schaeffer
Black Hills Club	Black Hills Buell, Rapid City, SD	605-342-9362	Tony Divan
Knoxville Dragon Division	Buell of Knoxville, Knoxville, TN	865-689-2454	Curtis Blanton
Austin Regulators Club	Austin Buell, Austin, TX	512-448-4294	Dave Bigley
Central Texas Riders	Central Texas Buell, Austin, TX	512-973-8521	Denny Bahm
Montgomery County Club	Texan Buell, Conroe, TX	936-539-1726	John Raley
Texas Streetfighters Club	Mancuso Buell, Houston, TX	281-970-9700	Keith Rovell
Roanoke Valley Club	Roanoke Valley Buell, Roanoke, VA	540-562-5424	Zach Shiffer
Winchester Club	Winchester Buell, Winchester, VA	540-662-4468	Barbara Grove
Great Northwest Club	Cycle Barn, Lynwood, WA	425-774-3538	Dave Preston
Mountain State Riders Club	Buell of WV, S. Charleston, WV	304-768-4211	Michelle D'Angelo
The Next Corner Club	Buell Motorcycles of Appleton, Appleton, WI	920-757-1651	Dave Stueve
Doc's Rolling Thunder Club	Buell of Shawano County, Bonduel, WI	715-758-9080	Kersten Helling
Uke's Club	Uke's Buell, Kenosha, WI	262-652-3653	Tim Koleno
Belle City Riders	Racine Buell, Racine, WI	262-884-0123	Dean Steger
Wausau WI Club	Wausau Buell, Schofield, WI	715-355-4464	Jose Hunt
Suburban Sport Riders Club	Suburban Buell, Thiensville, WI	262-242-2464	John Burnett

CANADA

Back Road Thunder Club	Buell of Southern Alberta, Calgary, AB	403-250-3142	Tom Wild
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STREETFIGHTERS STREETFIGHTERS



STREETFIGHTER
HOME BASE
MACHINE

DARREN WILSON *(far left)*
HANNAWA FALLS, NEW YORK
1997 LIGHTNING® S1

I attended the Loudon Classic at NHIS in 1997 on a 1985 Sportster®. Buell was there with their demo fleet and I rode every model. I was so impressed, I bought my 1997 Lightning S1 three weeks later in Syracuse, New York. You won't hear a better exhaust note than the one delivered by a Buell®. And the performance is incredible. But I'd have to say my favorite thing about my Buell is the attention it commands. I'll bet I've been asked at least one hundred times, "What is that thing?" I'm always more than happy to explain.

My Lightning has traveled to NHIS eight times (including a 2000 California Superbike School), Shannonville Motorsport Park four times (including a 2001 track day crash), and VIR once. I've just rolled past the 14,000-mile mark on my return home from the 81st Loudon Classic, where I rode the demos once again. When the time is right, I'll add a second Lightning to the family.



STREETFIGHTER
HOME BASE
MACHINE

NEAL WEINSTEIN
OLD ORCHARD BEACH, MAINE
1999 THUNDERBOLT® S3T

I've owned and ridden a lot of bikes over the past 30 years, including a Fat Boy®, Softail®, Sportster, and CBR 600F3 – and as great as my experiences have been on all those motorcycles, I always felt I needed something ... more. What I wanted was a motorcycle that could both handle well and carry all my stuff. I finally found what I was looking for in my Thunderbolt S3T.

I was on eBay searching for a Heritage Springer® Softail for my brother when I saw the Thunderbolt S3T, and I knew immediately I had to have it. Okay, so call it an impulse buy – it was a great one! An American-made bike that can handle better than my CBR, carry more stuff than all my other bikes combined, and still make that unmistakable noise – plus it was manufactured by Harley-Davidson! It was too good to be true. My first real trip was to BRAG®'s Carving the Northeast Adventure in 2003. Riding with other Buell® enthusiasts and the trip itself was everything I'd hoped for – and more than I could have ever expected. My Thunderbolt S3T quickly became my favorite bike.

IF YOU ARE A BRAG® MEMBER, SEND IN YOUR PHOTO AND TWO TO THREE PARAGRAPHS ABOUT YOURSELF, YOUR BUELL®, AND WHY YOU'RE "OUT ON THE STREET."

Photos taken and provided by Buell owners. All Streetfighter submissions become property of Buell Motorcycle Company. If you would like to have your photo returned, please send a self-addressed stamped envelope with your submission.



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www.buell.com

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