

# TORQUE<sup>OF</sup> THE TOWN

The Voice of the Houston Chapter BMW Car Club of America

SPRING 2018







Original BMW Parts

www.bmwusa.com



The Ultimate Driving Machine®

## ORIGINAL BMW PARTS. A MASTERPIECE OF FORM AND FUNCTION.

Ensuring that every BMW continues to live up to its title as the Ultimate Driving Machine®, requires none other than Original BMW Parts. Each part is precisely engineered by BMW for a perfect fit and finish and offers a two-year unlimited mileage warranty.

If you are under the impression that this level of engineering mastery comes with a big price tag – think again. Introducing BMW Value Line, a collection of bundled parts and service kits designed for earlier BMW models and offered at special savings.

BMW of Houston North proudly offers the Houston Chapter BMW CCA a 15% discount on all parts purchases.

### ORIGINAL BMW PARTS.

**BMW EfficientDynamics**  
Less consumption. More driving pleasure.

**BMW** OF HOUSTON

N O R T H  
I-45 North @ FM 1960 • BMWofHoustonNorth.com

**281-874-1550**

©2011 BMW of North America, LLC. The BMW name and logo are registered trademarks. All rights reserved.

BMW Car Club  
of America  
Houston Chapter



# TORQUE OF THE TOWN

Post Office Box 56763 Houston, TX 77256-6763 [www.Houston-BMWCCA.com](http://www.Houston-BMWCCA.com)

## Spring 2018

**07** HOUSTON AUTO SHOW  
Get caught up on the latest and greatest in the automotive industry

**08** AUTOCROSS BANQUET  
Find out who was fast and who was faster

**20** ANNUAL CLUB BANQUET  
Shake off those winter blues with a good time with great friends

**4** OPEN ROADS

**12** TECH ARTICLE

**5** CALENDAR

**22** FINAL LAP

Internet Services Provided By

**OpLink**  
[www.oplink.net](http://www.oplink.net)  
281-445-9800

Printing Services

**Specialty Bindery & Printing**  
[www.sbpmail.com](http://www.sbpmail.com)  
713-869-0594

### 2018 BOARD MEMBERS

Chris Stokes  
PRESIDENT

[PRESIDENT@HOUSTON-BMWCCA.COM](mailto:PRESIDENT@HOUSTON-BMWCCA.COM)

Albert Levi Ball  
VICE PRESIDENT

[VICE-PRESIDENT@HOUSTON-BMWCCA.COM](mailto:VICE-PRESIDENT@HOUSTON-BMWCCA.COM)

Bill Krupowicz  
TREASURER

[TREASURER@HOUSTON-BMWCCA.COM](mailto:TREASURER@HOUSTON-BMWCCA.COM)

Diane Albrecht  
SECRETARY

[SECRETARY@HOUSTON-BMWCCA.COM](mailto:SECRETARY@HOUSTON-BMWCCA.COM)

Jim Moffit  
MEMBERSHIP CHAIRPERSON

[MEMBERSHIP@HOUSTON-BMWCCA.COM](mailto:MEMBERSHIP@HOUSTON-BMWCCA.COM)

Jennifer Ridgeway  
SOCIAL EVENTS CHAIRPERSON

[SOCIALEVENTS@HOUSTON-BMWCCA.COM](mailto:SOCIALEVENTS@HOUSTON-BMWCCA.COM)

Chris Augustine  
AUTOCROSS CHAIRPERSON  
AUTOCROSS-COORDINATORS  
[@HOUSTON-BMWCCA.COM](mailto:@HOUSTON-BMWCCA.COM)

Richard Lo  
DRIVING EVENTS COORDINATOR

[DRIVINGEVENTS@HOUSTON-BMWCCA.COM](mailto:DRIVINGEVENTS@HOUSTON-BMWCCA.COM)

Jeff Thomson  
WEB MASTER/SOCIAL MEDIA/E BLAST EDITOR  
[WEBMASTER@HOUSTON-BMWCCA.COM](mailto:WEBMASTER@HOUSTON-BMWCCA.COM)

Katie Otten  
NEWSLETTER EDITOR

[NEWSLETTER@HOUSTON-BMWCCA.COM](mailto:NEWSLETTER@HOUSTON-BMWCCA.COM)

Priscilla Saynay  
FACEBOOK ADMINISTRATOR

[FACEBOOK@HOUSTON-BMWCCA.COM](mailto:FACEBOOK@HOUSTON-BMWCCA.COM)

Priscilla Saynay  
TWITTER EDITOR

[TWITTER@HOUSTON-BMWCCA.COM](mailto:TWITTER@HOUSTON-BMWCCA.COM)

Jeff Otten  
TECHNICAL ADVISOR

[TECHADVISOR@HOUSTON-BMWCCA.COM](mailto:TECHADVISOR@HOUSTON-BMWCCA.COM)

D. Jeff Gomon  
SOUTH CENTRAL REGIONAL VP  
[SOUTHCENTRALRVP@BMWCCA.COM](mailto:SOUTHCENTRALRVP@BMWCCA.COM)  
**402.613.6910**

### COVER PHOTO

Photo By: Chris Stokes

Over looking the autocross course at Oktoberfest at New Orleans race facility. The Houston Chapter sponsored the autocross racing at the 2017 Oktoberfest.







## Taking A Drive Down Memory Lane

President, Blake LaGrone  
passes the torch to Chris  
Stokes for the 2018 year.

blake lagrone

president

It's with mixed emotions that I write this last article for the "Torque". I have very much enjoyed my time serving as our Houston BMW CCA President. Oh, there have been some ups and downs, but it has been a positive experience which has taught me much. Thank you for this opportunity! I owe many thanks to the Board that I was fortunate to work with..... You Folks Rock! I like this picture that was taken at our Annual Dinner of all of us. You can check that out in the Banquet article.

Many Thanks to Tish Otten, Pam Johnson, LaRita Godbey, Valerie Baker and Leann Stokes for the tremendous effort to put on another great dinner!

Our club runs on the efforts of our Volunteers. While I am no longer President I will continue to be active helping wherever I can to help put on the events we all so enjoy. As a Road Monkey I am looking forward to our next epic journey to Pittsburgh!

Just like all of you, I have a special love with my BMW. Here is my beautiful 5er, photo taken on our "Bluebonnet" drive in April of last year.



Blakes LaGrone's 5er at last years Bluebonnet drive. Watch the online calendar for this years up coming drive. Organizers are just waiting on the flowers to start blooming.

Unfortunately, I won't be taking my beautiful 5 series to Pittsburgh this year as I lost her in an accident. If you have ever wondered just how safe our cars are, I assure you they are amazingly safe. My 5er did an absolutely amazing job of keeping me from any injury during an incident earlier this year.

I was able to turn off the car, unbuckle my seat belt, open my driver's side door and step out of the car. I received a small scratch to the right side of my forehead and that was all! Thank you, BMW, and thanks to all of the Folks that helped me afterwards.

So, now I'm down to my E36 Supercharged M3 which is a great little car. I am installing some nice upgrades that will make the little beast even more enjoyable.

As I step away from my board responsibilities, I am very pleased that Chris Stokes agreed to step up from the Vice President's office to the Presidency. I believe he has a good man in Levi Ball as Vice President. Thank you both! It was time to introduce some new (and younger) blood into our Board. I wish you all the best in your new job. May the Open Roads ahead of you always be twisty!

A list of upcoming driving opportunities and social events.

### MARCH

3.10 Special Coffee Meet @ Car Museum  
3.17 Charity Drive @ Walter Hall Park  
3.18 Autocross @ Houston Police Academy

### MAY

5.8 Board Meeting @ The Heights  
5.12 Coffee Meet @ Cedar Creek Cafe  
5.13 Autocross @ Houston Police Academy  
TBD Moody Gardens

### APRIL

4.14 Coffee Meet @ Cedar Creek Cafe  
4.21 Bowling Challenge @ Del Mar Lanes  
4.22 Autocross @ Houston Police Academy  
4.28 Teen Street Survival @ Houston Police Academy

### JUNE

6.9 Coffee Meeting @ Cedar Creek Cafe  
6.17 Autocross @ Houston Police Academy

### NOTES

For an current calendar please check the club website. Some events require registration via the club website. All club members are invited to participate in all listed club events. Full Calendar on Facebook. Questions or suggestions regarding any event please contact:  
**SOCIALEVENTS@HOUSTON-BMWCCA.COM**



**ProAm Parts & Accessories**  
6125 Richmond Ave.  
Houston, TX 77057  
713-781-7755 800-847-5712  
www.proamauto.com



Now for BMWCCA members, ProAm's  
"Spend \$100, Get \$100" Contingency Award  
Program. Sign Up & Details @ proamauto.com

We offer:

DE Car preparation & Corner Balancing  
Suspension & Brake Upgrades  
Wheel & Tire packages - Mounting & Balancing  
Routine Maintenance - Full Synthetic Oil Changes  
Complete Detailing Service & Headlight Restoration



ProAm is now your source for APEX wheels for BMW's  
& Vorshlag suspension parts



## Momentum BMW West

Authorized **DINAN** Dealer

Authorized Dealership of BMW N.A.

**Momentum BMW West**  
a Sonic Automotive Dealership

**Address**  
15865 Katy Freeway  
Houston, TX 77094

**Main**  
832.772.9100

**Fax**  
832.772.9190

**Direct**  
832.772.9019

**e-mail**  
juan.maldonado@bmwwest.com

**website**  
www.bmwwest.com



Authorized Dealership of BMW N.A.

**Momentum BMW West**  
a Sonic Automotive Dealership

**Address**  
15865 Katy Freeway  
Houston, TX 77094

**Main**  
832.772.9152

**Direct**  
713.907.2396

**Fax**  
832.772.9190

**e-mail**  
john.crispino@bmwwest.com

**website**  
www.bmwwest.com





# Craftsmanship. Integrity. Curiosity.

Providing service, parts and performance modifications exclusively for BMWs in Houston, Texas since 1980.



No matter how well a car is manufactured, it's only as good as the service performed on it. Our BMW technicians have decades of experience collectively, and understand what it means to perform stellar workmanship. For routine maintenance, performance modifications and extended warranty work... Bavarian Machine Specialties delivers.

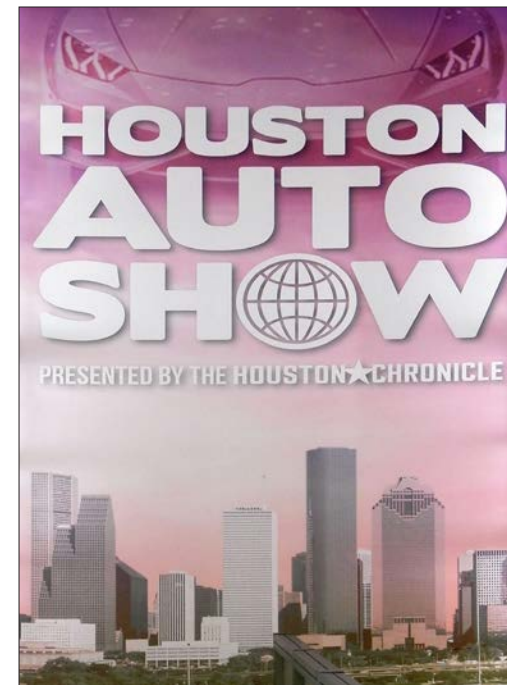
Come find out what others already know...

*"Experience Matters."*

Bavarian Machine Specialties  
3117 D'Amico Street | Houston, Texas 77019

Conveniently located 3 minutes from downtown near Waugh and Allen Parkway. | 8:00 to 5:30 Monday - Friday

**713-524-8365** | [www.bavarianmachine.com](http://www.bavarianmachine.com)



jim robinson

*club member*

This was the 35th year for event put on by The Houston Chronicle and area Auto Dealers Association was well attended. Both import and domestic auto dealers participated and most had top quality displays. As many as 700 cars filled NRG Center. Ranging from exotics to daily drivers and many hybrid vehicles were on hand. Attendees got the chance to get up close and personal with most of the offerings. This event showcases cars and trucks without sales pitches. Some vehicles were offered for test drives and others were on static display providing easy access inside and out for those looking into the availabilities this year. Whether looking to buy a new model in the coming year or just taking the time to fantasize over automotive eye candy, the show was the place to be.

On Thursday the auto show honored the First Responders who rescued some 2,000 people during Hurricane Harvey. Those guys and gals from Houston Police, Fire Department, County Sheriffs and others put in long hours helping those in need. Those guys worked tirelessly through the weeks of rain and flooding and deserve our praise and thanks.

Jeep presented an indoor obstacle course for drivers to test their latest products. The course included a hill



climb, stair step section and uneven pavement sections.

I'm drawn to the exotics like a moth to a flame. Walking into the event the first car I saw was the new Ford GT. They should have brought it out last year because of their repeat win at Le-Mans on their fifty year anniversary when they dominated Ferrari. Ford also brought a video racing simulator to experience the sights and sounds driving a race car. They also had homage to Steve McQueen movie's "Bullitt" Mustang. The original car was recently found and the owner never bothered to restore it.

Then it was on to the BMW display. I have to say at the outset that I was surprised BMW NA was not part of the show this year. I mean, Houston is the fourth largest city in America and they pull out all the stops for Detroit, Chicago, New York and the Los Angeles shows but I was told this was likely due to the new 8

series and X7M not being in production yet. Advantage Clear Lake provided as good sampling of cars. They brought as 750, X5M, M4, as well as a compliment of other series models. Most notably was the i8.

In previous years the i8 was locked up tight. But this year the doors were open and many attendees took the opportunity to do the gymnastics involved with getting in and out of the cars. Having seen many of these cars either at club events or on the road I had to try it out. It's kinda awkward getting in but once you're finally in the seat you find that the driving position is very comfortable, the seats are firm and hold you in place giving you the instant feeling of stability and control. I sat in the car imagining what it'd be like to take it on the road to experience first-hand what

*continued on page 22*





## Not your average Sunday drive

Autocross Banquet celebrates class winners and drivers who just had fun driving their car competitively.



Winner, Winner, Winner! Aaraj Thyagaraj celebrates winning a BMW T-shirt from a sponsor. The generosity of the club sponsors help make our events extra special.

katie otten

newsletter editor

Welcome to Autocross! It just might be the little bit of excitement you didn't know your family needed. It's you against the clock, against the cones and against your own mind. Can you drive the course faster than the last run? Can you cut that line closer and not drag the cone to the finish line? Can you look up, look ahead, focus on the next turn not fixate on the red cone right in front of you? Are your reflexes fast enough to beat your kid, your husband, your wife? You won't know until you try, so why not try, and then try again and again.

All members in good standing, above the age of 15 ½, are encouraged to enjoy an Autocross event. There's a check list with suggested needed items

on the Club's web site. Basically, you'll want a water bottle, a helmet and a desire to improve your driving. Read the list of frequently asked questions, register on line and you're ready to attend. On drive day, generally the third Sunday of the month, instructor/drivers are available to ride with you as many times as you want; till you get the hang of it. And once you get the hang of it, you'll probably be hooked.

While most top Autocross drivers have been through several autocross seasons and several sets of tires, these veteran drivers are happy to give helpful tips to new drivers. They'll help you through the tech inspection. They will walk the course with you and suggest driving strategy. When it's your turn to

continued on page 10



**LEFT:** F Class champions, Michael Knierien, Aaraj Thyagaraj, and Michael Anastasio pause for a picture with their trophies. **TOP:** Everyone enjoys the lunch provided by Karbach Brewery. The entrees included a chicken and a pasta side dish, however the chocolate brownies were a favorite of everyone.

7

## AUTOCROSS SEASON RESULTS

### B CLASS

1ST	Nikola Dragojlovic
2ND	Don Guilbault

### C CLASS

1ST	Chris Augustine
-----	-----------------

### D CLASS

1ST	Kemell Kassim
2ND	Randy Crider
3RD	Josh Ronan

### E CLASS

1ST	Benjamin Ongoco
2ND	Walter Phillips
3RD	Jeff Thomson

### F CLASS

1ST	Michael Knierien
2ND	Aaraj Thyagaraj
3RD	Michael Anastasio

### x1 CLASS

1ST	Jim Hedderick
2ND	Christopher Stokes
3RD	Robert Kortlang

### x3 CLASS

1ST	Alex Dalgleish
2ND	Michael Schnetzer

### x4 CLASS

1ST	Ho Cheung
2ND	Mike Klaybor
3RD	Shannon Saxby

### x5 CLASS

1ST	Kelan Captain
-----	---------------



E class winners, Jeff Thomson, Benjamin Ongoco, and Walter Phillips stop for their picture on the podium. All cars are divided up by class, to level the playing field.



The club would like to thank all of the sponsors for donating items for the Autocross Banquet. With their continued support they make every event special with their raffle items. Every autocrosser can always use a new hat or t-shirt.



**TOP:** The x1 top finishers, Robert Kortlang, Jim Hedderick, and Chris Stokes pause for their 5 seconds of fame. In addition to presenting awards to BMW drivers, the club also gives awards to non BMW classes.

**BOTTOM:** Fellow autocrossers take a minute to shame cone killer award recipient, Chris Stokes.





continued from page 9

drive for the first time, the starter will tell you to turn off your radio but not how to make your heart stop pounding or your hands stop sweating. Ninety seconds or less later, your lap is done. You don't know how fast you went you only know you need to do it again. Only better this time, faster, cleaner, faster, smarter, faster, because you want to be faster. Faster than you were the last time. Maybe fastest of all!

The Autocross division celebrated the end of another season with lunch, prizes and trophies, January 25 at Karbach Brewery. A season consists of 10 events, held once a month on a Sunday (except July and August) at the Houston Police Academy. The make and size of the car you drive determines your competition class. It doesn't have to be a BMW. To be eligible for a class trophy, you must attend six club events. By December, class winners are generally evident but most 'Crossers still attend to experience the rush of beating the clock.

Autocross is Sunday family drives with adrenalin, picnic optional. Whether you end a season with a trophy or just happy memories, every driver shares a common bond, to become better, ultimately safer, drivers. We're out there to have fun driving our cars (while maintaining a reasonable amount of control).



## CONE KILLER AWARD



<p><b>BMW OEM &amp; M Performance Parts</b></p> <p><b>Brake Pads &amp; Kits</b></p> <p><b>Suspension Kits</b></p>	<p><b>Driver Safety Gear</b></p> <p><b>Exhaust Systems</b></p> <p><b>Clutch &amp; Drivetrain Parts</b></p>	<p><b>GPS Lap Timers &amp; Cameras</b></p> <p><b>Intake Systems</b></p> <p><b>Fluids &amp; Maintenance Items</b></p>
---	--	--

▶ BMW M Performance ▶ KW Suspension ▶ Motul ▶ Ohlins ▶ Bilstein  
 ▶ Hawk Performance ▶ Stop Tech ▶ Pyroprotect ▶ Simpson

**FREE SHIPPING** on all orders over \$99  
 (832) 241-5995  
 6% discount for Houston BMW CCA members Enter Code: 16TORQUE6



### Quality Services:

- Exotic/ Highline Customizations
- Auto paint & body repair
- Framework
- Auto glass
- Window tint
- Auto detailing

### Auto Accessories:

- Alarms
- Stereos
- Body Kits, etc.



**Collision Plus Inc.**  
 7628 Bellaire Blvd.  
 Houston, TX 77036  
 713.988.5489  
 (fax) 713.988.6451

**Collision Plus II**  
 600 Hwy. 6 South  
 Houston, TX 77079  
 281.496.5489  
 281.496.6451 (fax)

[www.collisionplusinc.com](http://www.collisionplusinc.com)







Here are the basics on Anti Roll Bars

Whether you call them Anti Roll Bars or ARB or Sway Bars, here is all the information you need to know on how they make your car go fast

jeff otten tech advisor

Most BMW cars have front and rear Anti-Roll Bars (ARB) or Sway Bars. The benefit of the ARB is that it provides no spring rate increase when both wheels of an axle move together, but does add spring stiffness when one wheel moves more than the other. So if you hit a dip across the road, while going straight, the ARB's do nothing to resist bottoming or improve the ride. All of the suspension control is handled by the springs, shocks, shock bumpers, and tires.

However, if you hit a pothole on one side of the car, or are cornering causing weight transfer to one side of the car, the ARB will resist the wheel deflection by adding to total wheel spring rate. The ARB bar works by twisting a round bar or tube, providing a torsional spring stiffness to be applied to the strut or suspension arms. So essentially the ARB's add roll resistance to the chassis. In general adding roll resistance will reduce camber change, improving load distribution on the high loaded tire and will therefore allow cornering speeds to increase. ARB's work very well in turn transitions, such as autocross slaloms.

So the ARB's bars will allow fairly soft suspension springs to provide good ride quality, while still providing good cornering capability. On many cars it is easier and less expensive to change ARB's than to change springs or shocks. ARB's are normally made of steel and most are solid bars. However, there are increasingly available tubular bars

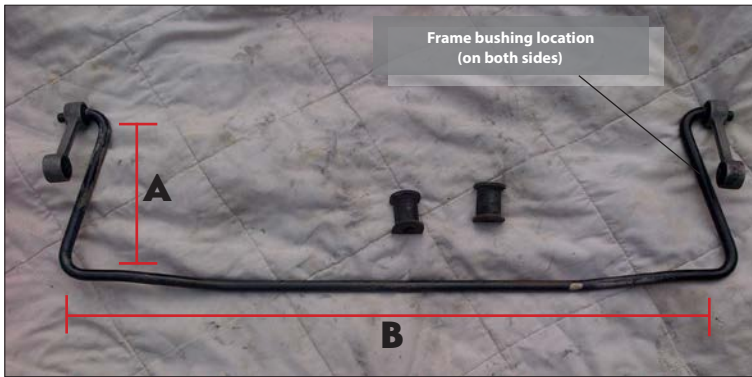


FIGURE 1: Pictured is the M Sport sway bar from an 87 BMW 325is (e30). While not every sway bar looks like this, most BMW sway bars are similar. When determining what sway bar is on your car, you must know the build date.



On many cars it is easier and less expensive to change the sway bar than to change the springs or shocks.

to reduce weight. Newer M cars are typically using tube bars now with increasing emphasis on weight reduction to improve performance and fuel economy. The ARB has two (2) fixed points to the frame and two moving points attached to the suspension. The frame points must allow the bar to rotate, which can be done with rubber bushings or with harder materials. If rubber is used most of the twisting motion occurs in shear of the rubber, if harder materials (polyurethane, Delrin or other plastics or even metal) then the interface must be greased to permit rotation and not make unwanted noise. Factory bushings are typically rubber as NVH (noise vibration harshness) is of major importance when selling street vehicles. In Figure 1, Dimension A is the moment arm or

THE LINGO

- Where is my sway bar? Located in between either the front or rear wheels. Sway bars are one part of the car suspension system.
- Slaloms A series of alternating right and left turns
- Angular Stiffness applying a torque (force x distance) to a bar twists the bar an angle, the stiffness is T/theta, typically inch-pounds/degree.
- Strut Housing lower body of a Macpherson strut front suspension, that contains the shock insert or is the outer body of the front shock
- Torsional Deflection the twisting of an object due to applied torque
- Independent Suspension a system where each wheel on an axle can move without causing the other wheel to move. All BMW's use independent suspension designs for both front and rear

distance where the force from wheel deflection is applied to twist the bar. Dimension B is the length that provides the torsional spring force to the end of the bar. Note that A should be considered as perpendicular distance, but B should be the actual length of the bar including the length of any bends between the torsion section. This bar is fairly straight, but most bars have many bends to clear exhaust, differential, and suspension arms.

The angular stiffness of the back part of the bar and the moment arm applying the load to the suspension provide the total stiffness of the bar. An equation to calculate the stiffness of the bar is available in the book "How to Make Your Car Handle" by Fred Puhn. However, it is not really necessary to know the exact rate, as we know a reference point from the stock bar. If you change this bar, a 13.5mm euro sport bar, for a 14.5mm E30 M3 bar. How much increase in rate will it have?

Since torsional deflection is defined by the polar moment of inertia (J), and the length of the bars are the same (since the mounting points to the frame and suspension arms are the same). For a round bar the formula for J is:

J=πD^4/32

and we can compare the torsional stiffness as a ratio (SR)

SR=J2/J1 = D2^4/D1^4

For a tube bar

J=π(Do^4 - Di^4)/32

Note there is also flexibility in the moment arm that contributes some to the overall stiffness, but if we are changing from a smaller bar to a larger one, the larger will have a larger bending stiffness, so the effect on total stiffness will not be underestimated by ignoring this. Also there is flexibility in the frame mount and the end links, since both may

E 30 REAR SWAY BAR

	Size (mm)	D <sup>4</sup> (mm <sup>4</sup> )	% Increase from stock	% Change from Sport
stock rear	12	20736.00	0.0%	62.4%
Sport	13.5	33215.06	160.2%	0.0%
M3	14.5	44205.06	213.2%	133.1%
Aftermarket	16	65536.00	316.0%	197.3%

E 36 FRONT SWAY BAR

	Size (mm)	D <sup>4</sup> (mm <sup>4</sup> )	% Increase from stock	% Change from Sport
Early Front	22.5	256289.1	0.0%	91.6%
95 M3 Front	22.5	256289.1	0.0%	91.6%
Late M3 Front/ early sport	23	279841.0	109.2%	109.2%
Aftermarket	28	614656.0	239.8%	239.8%
Tube bar Aftermarket(in)	1.25 x .109wt	544068.6	212.3%	212.3%
	1.25 x .120wt	599958.5	234.1%	234.1%

E 36 REAR SWAY BAR

	Size (mm)	D <sup>4</sup> (mm <sup>4</sup> )	% Increase from stock	% Change from Sport
Stock Rear	17	83521	0.0%	
95 M3/M Sport	19	130321	156.0%	0.0%
Late M3	20	160000	191.6%	122.8%

contain rubber. For both, these they are either the same or very similar for original parts. For aftermarket parts the frame bushings are likely a stiffer elastomeric material so the difference would be underestimated for aftermarket parts.

For an example, the E30 chassis was built with three (3) sizes of rear bars, 12mm (standard), 13.5mm (euro sport), and 14.5mm M3. A simple spreadsheet provides us insight into what BMW was trying to achieve. The table above illustrates the difference.

For the front bar on the E30 the standard cars have the front ARB connected to the control arm with a spherical fitting that also adds additional rubber at the bolt. The M3 has the front bar connected to the strut housing by a link with spherical bearings at both ends. The M3 arrangement is much stiffer making the front bar more effective. The bar diameter of the M3 is 19mm whereas the standard car is 20mm. Due to the better end mounting the smaller bar provides more roll resistance and is lighter by 0.4 lb ac-



# NORTH HOUSTON BEEMER

**Exclusive BMW & MINI Specialists**  
**281-288-8200**  
 26015 I-45 N. Spring, TX 77380  
 Call or email for an appointment  
 Monday - Friday 8am - 6pm

**We are open on Saturday from 8 am to 1 pm**

**Will match any BMW & MINI Dealership or Specialist Coupon.**  
Valid only when coupon is presented at time of service and it must be valid by date

**SYNCHRONY CAR CARE**

**Now Offering 0% for 6 Months**  
 with Approved Credit

**ONLY \$89.99**  
**Power Steering Flush**  
One coupon per customer. Not valid with any other offers. Expires: May 31, 2018

**\$25 OFF**  
**Your total bill of \$300 or more**  
One coupon per customer. Not valid with any other offers. Expires: May 31, 2018

**10% OFF**  
**Labor on any service \$100 max excludes specials.**  
One coupon per customer. Not valid with any other offers. Expires: May 31, 2018

**ONLY \$119.99**  
**Alignments**  
One coupon per customer. Not valid with any other offers. Expires: May 31, 2018

**ONLY \$79.99**  
**Brake Flushes**  
One coupon per customer. Not valid with any other offers. Expires: May 31, 2018

**ONLY \$89.99**  
**Coolant Flushes**  
One coupon per customer. Not valid with any other offers. Expires: May 31, 2018

**15% OFF**  
**parts and labor for any brake service**  
**Brake Service**  
One coupon per customer. Not valid with any other offers. Expires: May 31, 2018



**WE MOVED!**

North Houston Beemer is a family owned independent BMW and MINI automotive repair specialist. We have over 50 years combined BMW and MINI technical experience with Certified Master Technicians from the BMW Step Program. Our staff of Technicians and Service Advisors are dedicated in providing the finest customer service and a unique vehicle repair experience. Our competitive pricing, latest technology, and state of the art facility truly creates THE ULTIMATE TEAM FOR YOUR DRIVING MACHINE!

**www.nhbeemer.com**



**ATTENTION!!**

**BMW and MINI Owners!**  
**We have your costly dealer alternative!**  
**Your ultimate team for your driving machine!**



**NORTH HOUSTON BEEMER**  
**281-288-8200**  
 26015 I-45 N. Spring, TX 77380  
**www.nhbeemer.com**



**Bring this page and get A Free**  
**Check Engine light Scan**

Know someone who owns a BMW and is missing out on the rewards of being a BMW CCA Member?

- Vehicle Rebates on a purchase of a new BMW
- Membership Rewards Program sponsored by BMW NA
- The award winning national publication, Roundel
- Discounts from local club sponsors and dealerships
- An invitation to all of the local chapter activities

ALL ENTHUSIASTS ARE WELCOME TO JOIN BY APPLYING FOR MEMBERSHIP AT

[www.houston-bmwcca.com](http://www.houston-bmwcca.com)

**BMW Car Club of America Houston Chapter**



**TMJ BIMMERS**  
**MAINTENANCE REPAIRS UPGRADES**  
 TMJ BIMMERS 5211 KLEINBROOK DR. 713.384.2273  
 #NotyouraverageBMWshop

**ADVERTISERS INDEX**

BAVARIAN AUTOSPORT	15
BAVARIAN MACHINE	6
BIMMER WORKSHOP	17
BMW OF HOUSTON NORTH	2
COLLISION PLUS INC.	11
CONSIGNMENT GARRAGE	10
METROPOLITAN COLLISION & SERVICE	18
MOMENTUM BMW SOUTHWEST	24
MOMENTUM BMW WEST	5
NORTH HOUSTON BEEMER	11
OPLINK.NET	19
PRO AM PARTS & ACCESSORIES	5
PERFORMANCESTOP.COM	10
TEXAS-GERMAN AUTOHAUS, L. P.	19
TMJ BIMMERS	15

**Brands you trust.**

**LEMFÖRDER**

**MANN FILTER**

**HELLA**

**Genuine BMW**

**brembo**

**BOSCH**

**BILSTEIN**

**Best price guarantee • No sales tax**

**BAVARIAN autosport**

**800.535.2002 | BavAuto.com**



continued from page 13



**FIGURE 2:** E30 standard link to control arm, reduces bar effectiveness to reduced movement of bar end and rubber at clevis bolt connection



**FIGURE 3:** ARB link connected to strut (M240i) provides more movement at end of bar, making bar more effective

cording to the BMW parts database.

For the E36 cars, the early cars had the front bar connected as on the later E36 M3. When the car was updated (Oct. 1991) the front bar was changed back to a control arm connection similar to the E30 standard car, decreasing the ARB effectiveness. In later years the bar was increased to 24mm, while the late M3 only had a 23mm bar. *Note that for most BMW's the factory tends to increase the rear bar more (percentage wise) than the front bars when upgrading a chassis to Sport or M tuning.*

If you have a car with a control arm front bar connection it is a cost upgrade to change it to the strut connection style. On cars with the shock insert style you can weld an attachment to the strut housing, or purchase an aftermarket strut that already has the welded

on tab. The original bar cannot be used however as typically the arm is too short on the control arm style so the appropriate M or aftermarket bar must be used.

Generally, the advice is to use the smallest bar that provides the car balance that you want. A stiffer front bar will increase understeer, and a stiffer rear bar will add oversteer. By using too large a bar it is effectively defeating the benefit of independent suspension, potentially resulting in poor handling on rough surfaces. For the front of the car you may see the inside wheel off the ground in tight turns. This means that only one tire is providing grip at that end of the car. Due to the load on the bar from the loaded wheel the opposite wheel is actually lifted by the ARB. By keeping the bar soft enough, and controlling roll with spring rates as well as ARB's a more optimum balance can be achieved than just installing large bars. Note however that even Formula 1 cars will occasionally lift an inside wheel on some tight corners. Another negative of overly

large ARB's is increasing forces at the attachment points. This can result in a need to re-inforce the end link area and possibly the frame mounts. Of course large bars also add weight, so tube bars (OEM, Dinan, Ground Control or Hotchkis) should be considered.

When installing the ARB's or maintaining, always make sure the bar rotates freely before connecting the end links. Also make sure the links are equal length on both sides otherwise one side of the car will have additional and unequal wheel spring rates. The rubber bushings often twist and become dis-

torted over time so may need replacement for best effectiveness.

When upgrading a chassis to Sport or a M build, BMW's tendency is to increase the rear bar more than the front sway bar to increase cornering performance.

QUESTIONS?  
CONTACT JEFF OTTEN  
TECHADVISOR@HOUSTON-BMWCCA.COM

Have an idea for an article?

All members are encouraged to submit ideas for articles or full articles with photographs to the newsletter e-mail.

NEWSLETTER@HOUSTON-BMWCCA.COM



## THE ULTIMATE BMW SERVICE EXPERIENCE SERVING HOUSTON SINCE 2002

16 years of Service

- FACTORY-TRAINED TECHNICIANS
- ONLY GENUINE BMW PARTS
- HONOR MOST EXTENDED WARRANTIES
- COMPLIMENTARY SHUTTLE
- FREE CAR WASH AFTER SERVICE
- BMW CCA MEMBERS RECEIVE 10% DISCOUNT ON ALL REPAIRS

Celebrating 11 Years  
of Exceptional Service!

BIMMER WORKSHOP

3421 FM 1960 WEST ❖ HUMBLE, TX 77338

www.bimmerworkshop.com ❖ 281-233-0111





# BACK TO YOU LOOKING LIKE NEW

Metropolitan Collision & Service provides complete collision repair on all makes and models, foreign and domestic. They specialize in the repair of luxury automobiles such as Audi, BMW, Mercedes Benz, Porsche, VW, Lexus, Land Rover, Infinity as well as the more expensive SUVs. Metropolitan gets the collision repair job done right whether it is cosmetic, structural or mechanical and proudly warranties their work for the lifetime of the vehicle. Conveniently located minutes from downtown in the Heights, Metropolitan is easily accessible from any part of the greater Houston area.

With over 80 years of success in the Houston market, Metropolitan Collision is road tested and highly rated by thousands of satisfied customers.

The more you invest in a vehicle, the more important it is to deal with the best in collision repair...you can put your trust in Metropolitan Collision & Service.



818 West 16th Street Houston, TX 77008 P 832.618.1700 F 832.618.1705

[Metropolitancollision.com](http://Metropolitancollision.com)



**Texas-German Autohaus, L. P.**  
3417 Edloe Street  
Houston, Texas 77027  
(713) 850-8282  
[www.t-g-a.com](http://www.t-g-a.com)

**TGA**  
**Texas-German Autohaus**  
Service  
**Mercedes and BMW**  
Automobiles  
850-8282



**Hans Richter**  
President

**TGA** specializes in the repair and service of Mercedes-Benz, BMW and Porsche automobiles. We have served the Houston European car owner since 1994. Please come for a visit and find out why more than 5700 customers are giving a 97% customer satisfaction rating!

**"We speak your car's language."**

Hours: Monday - Friday: 7:30am - 6:00pm  
Saturday: 9:00am - noon (Consultation Only)



**oplink.net**  
Premium Internet Services

Serving Houston since 1999!

- **High-Speed DSL Internet**
- **Server Colocation**
- **Web Site Hosting**
- **IT/Network Consultation**

**Visit Our Website Or Call Today**

<http://www.oplink.net>  
**281-445-9800**

Oplink.net is a proud sponsor of Houston BMW CCA



# Warming up the Winter: Club members celebrate with good friends, great food, awesome prizes at this years annual banquet.

tish otten club member

The 2018 BMW CCA Houston Chapter Annual Dinner held at the Houston Racquet Club was just the opening to this year's Club Events calendar. Congratulation to the newly elected President, Chris Stokes and Vice President, Levi Ball who will serve for two years and to Diane Albrecht, Secretary, and Bill Krupowicz, Treasurer, who will transition out of their board positions at the end of this year. Now hold on a minute here, because the annual dinner isn't just about elections, trophies and the Club's event filled up-coming year. IT'S A CELEBRATION of YOU, and this year's celebration raffled off over \$8,250 in prizes.

This year's prize filled event was generously supported by our Torque of the Town advertisers and local dealer/sponsors. These folks will give your car the best care possible and at the best prices possible so look in the quarterly newsletter and on the club's web page to decide where to take your car. And tell them how you found them, from their ad in YOUR club's newsletter.

John Keeling from **Griot's Garage**, gave one tall y'all presentation that made car maintenance sound positively enjoyable as well as scientifically fascinating. **Advantage BMW Clear Lake** showered the raffle

table with a golf bag, a men's and a women's jacket and a beautiful woman's watch. **Houston North Beemer** donated valuable certificates for brake, power steering and coolant flushes, **Collision Plus** contributed a complete car detailing, **Performance Stop** added two \$100 merchandise certificates redeemable through his web site, performancestop.com. **Texas German Autohaus** con-



tributed a M Sport back pack, watch and a \$200 discount for repairs or service. The Club's donations included two \$800 Tire Rack gift cards, a one-day ticket to the BMW and MINI Performance Driving School. Congratulations to the lucky guest who won a fully paid, 2018 Oktoberfest Social Package, a week's worth of dinners, lunches, and receptions at the July 9-18 O'fest in Pittsburgh. Even if your raffle tickets, included with your reservation, stayed with mine at the bottom of the fish bowl, everyone left with a gift bag filled with great freebies making everyone there a lucky winner.

Mark your calendars for next year's Annual Dinner event in January 2019. It may seem forever away but with all the great driving and social events already on the Club's web site events' calendar, <http://www.houston-bmwcca.com>, this year will fly by. The Houston Chapter

of the BMW-CCA strives to include something for everyone in the family; **Teen Survival School on April 28**, a slow and easy spring Blue Bonnet Drive, the "all in good fun but competitive" monthly Autocross, Saturday Coffee Meet Ups and the adventurous drive to the best annual caucus of all, the 2018 Pittsburgh BMW-CCA O'Fest.

It takes a lot of volunteers to make this one of the biggest and best chapters of the national BMW CCA organization. Volunteering is what makes this club a family and I encourage you to pick an event and help make it happen. If you have an idea, it's probably a good one, so share it with the club. Send your idea to board@houston-bmwcca.org. Make this a year of new friends, new adventures, and great memories because it's not the getting there, it's who you meet on the way.



**TOP:** Sponsor, Michael Anastasio gets a picture with Robert Kortlang. The banquet provides an excellent opportunity for club members to talk with many of the club sponsors.

**Right:** Addressing the club members, Chris Augustine promotes Autocross to club members. Stokes and Augustine both are active in autocrossing for many years. Both Stokes and Augustine have worked together to run the monthly events.



From left to right standing: President (outgoing) Blake LaGrone, Membership Chair Jim Moffitt, Social Events Chair Jennifer Ridgway, Social Media Chair Priscilla Saynay, Secretary Diane Albrecht, Webmaster Jeff Thomson, Autocross Chair Chris Augustine, Newsletter Editor James Robinson, Driving Events Coordinator (DEC) Richard Lo, Vice President (incoming) Albert (Levi) Ball, and kneeling in front, President (incoming) Chris Stokes. Not pictured: Treasurer Bill Krupowicz and our Technical Advisor Jeff Otten



Big winner, Jennifer Ridgway takes home the big prize of the night: tires. The \$800 Tire Rack gift card is one of many raffle items given away to members at the banquet.



# FINAL LAP

## A new year brings changes

jim robinson

club member

On a final note; I'm stepping down as newsletter editor. Katie Otten has been appointed by the board newsletter editor. She has an extensive background in graphic design and she also has social media skills that will help broaden the scope of the newsletter giving our chapter a larger footprint. I've had a great time serving our chapter

in this capacity. If I have to blow my own horn (no pun intended) I think I've produced some great issues over the last five years. I'd like to thank the board, both past and present members for granting me the opportunity to serve our chapter in this manner.

I appreciate everyone who contributed articles for publication and the many favorable comments I've received from chapter members. I'd like to particularly

thank past chapter presidents David Dalton, Dennis Nowak and Blake LaGrone for their support. I'd also like to thank the folks at Specialty Bindery for the stellar printing; as I've often told them "they always made me look like a million bucks!" I look forward to working with Katie, by continuing to write articles for the newsletter.

continued from page 7

I've seen owners do for the brief seconds they come into view. Several times I've watched as these cars take the highway on ramp then suddenly disappearing completely as though they had just "Jumped to Light Speed".

But, alas, it was soon time to leave the car and let others have a turn at automotive erotica. That's when I discovered the true gymnastics involved with the i8. I was reminded of way back when I owned a V12 Jaguar E-type. It has wide rocker panels similar to the i8 so I thought I knew what to expect. Just swing your legs out and lean forward and stand up. However, the seats in the old Jag were just about even with the lower frame. No so with the i8. After you clear the lower frame you kinda fall into position in the seat. Therefore when you swing your legs out your butt is still below the frame and your feet don't touch the ground. Considerable effort was necessary and it took three attempts to overcome gravity and haul my fat ass out of the car. Oh well, a great car to fantasize about and I would have loved to have driven it but I can't imagine doing those calisthenics on a daily basis. I'll keep my 5er and dream of soon winning the lottery to buy a new M5; or maybe an X6M.



I've got absolutely no use for the latter but I like the idea of that much power in an SUV!

Star Cars had a big display of Aston Martins to drool over. They and the DB 11 from last year a couple of V8 and V12 Vantages and the Zagato Volante is especially nice.

Jaguar had a very good display of current models.

Other notable vehicles included Audi, Rolls Royce Land Rover and Maserati. Mercedes had a really big display; far more dazzling than the other German car makers. But every imaginable car maker was represented; Nissan, Chevrolet, Honda, Lexus, Infinity etcetera. They all had a full complement of cars, trucks and SUV's, including some "old school" hotrods and classics too.







Factory Trained Technicians  
State Inspections  
Window Tint  
Paintless Dent Repair  
Interior  
Rock chip/Windshield Repair  
Wheel and Rim Repair  
EZ Car Care Ready  
Early Bird/Late Night Drop-off

24hr Roadside Assistance  
State of the Art Body Shop  
Detail Service Staff on hand  
Complimentary Car Wash  
Coffee/Latte Machine  
Comfortable Waiting Area and Cafe  
Shuttle Service (15 mile Radius)  
Cab Service and Towing Service  
Loaner and Rental Car Service

Wi-Fi  
Covered Service Drive  
Valet Service  
Retail Parts Boutique  
Magazine/Newspaper  
Online Appointments  
Appointment Confirmation  
Mobile Technician  
Fastlane 2-Hour Service

\$17 Million New/CPO Inventory  
Largest Parts Inventory in TX  
72 Technicians  
14 Service Advisors  
Meal Vouchers  
Computer Center  
Service Clinics  
New Car Clinics  
BMW Certified Tire Center

## **MOMENTUM BMW** **SOUTHWEST**

10002 Southwest Fwy Houston, Texas 77074 1-800-731-8114