

# E31news

THE VOICE OF NORTH AMERICAN E31'S

BMW Car Club  
of America  
E31 Chapter



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## **E31 Chapter** **BMW Car Club of America**

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**[newsletter@bmwccae31.com](mailto:newsletter@bmwccae31.com)**

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### **2019 E31 Upcoming Events**

#### **BC 8's WrenchFest, July 20**

Vancouver, BC (Wuffer Spa and Garage)  
[hchristoff850@telus.net](mailto:hchristoff850@telus.net)

#### **BC 8's at German Car Festival at Waterfront Park,**

July 21, Vancouver, BC  
[hchristoff850@telus.net](mailto:hchristoff850@telus.net)

#### **SoCalEights Wrenchfest, Aug 3**

Signal Hill, CA  
[socaleights@gmail.com](mailto:socaleights@gmail.com)

#### **BC 8's at Crescent Beach Concours D' Elegance,**

Aug 31, Vancouver, BC  
[hchristoff850@telus.net](mailto:hchristoff850@telus.net)

#### **SoCalEights 30<sup>th</sup> Anniversary Cookout, Sept 21**

Yorba Linda Park  
[socaleights@gmail.com](mailto:socaleights@gmail.com)

#### **BMWCCA Oktoberfest, Oct 15 – 19**

Spartanburg, SC  
<https://ofest.bmwcca.org>

Cover: 8's Nose to Nose – at the BMW ClubE31 Italy 30<sup>th</sup> Anniversary

**By Steffen Staiger**  
**President, E31 Chapter**



It's hard to believe that we are already into the second half of the year – time sure does fly. This year marks the 30th Anniversary of the E31 launch at the Frankfurt Automobile Show, and looking at the car, it just does not seem to be that old, they have aged quite nicely. This is the hallmark of great design, and we are all fortunate to have these in our possession. The desire to own an E31 has been increasing lately due to the “successor” that has come out of Dingolfing this year. While it carries the magical number 8, it seems to be missing something. I had the opportunity to visit BMW in Munich last month, and spent quite some time looking over the Concept 8 and the Production 8 that were displayed at BMW Welt, and as usual, the production model was definitely “watered down”. It was interesting to

see where BMW was and where they are going design wise in one room – definite eye opener. While that was nice, the highlight was actually a visit to the ALPINA factory in Buchloe to see where these extraordinarily wonderful works of art are born, it definitely was worth the trip.

The Board would like to welcome Mike Barrett as our new Event Coordinator and Brian Diefenbacher as our Brands Manager. Both of these gentlemen are no stranger to the E31 world and we are glad to have them as part of our group.

I would like to also take a moment and mention our VP, Alec Cartio, and give him props for what he has been doing lately with restoring, marketing and getting E31's out on the street. Truly nice examples and if

you know someone looking for an 8, hook them up with Alec, they won't be disappointed.

For those of you looking to participate in a BMW Event this year, take the time to think about the BMW CCA Oktoberfest, which will be the 50th Anniversary and will be held in Greenville, SC from October 15-19, 2019. Rumor has it that the E31 might even be recognized, we'll see.

Hope everyone is having a great summer, stay cool, drive safe and enjoy those 8's!



850CSi



### *Brian Diefenbacher – Brand Manager*



Brian Diefenbacher has been an auto enthusiast all of his life, and became a BMW enthusiast in 1996 starting with the family's E36 325ci convertible. Brian's first BMW was a 1993 850ci purchased in 2005 in Seattle, which he currently owns along with an E39 Dinan M5. Brian has enjoyed driving the 850ci to California for events including the 10th Anniversary of the 2003 Left Coast E31 gathering.

Over the course of the years he has enjoyed working on E31, E34, E36, E46, E37, E39, E83, E93, and many other BMW models with friends and family, helping them maintain, improve, and modify their cars. In 2014 Brian started organizing events with the AZ 8's, a group of E31 owners and enthusiasts within Arizona. As a group, the AZ 8's have enjoyed driving trips to throughout the state, as well as wrenchfests at Brian's home in Cave Creek, a suburb of Phoenix. Don't tell anyone: Brian's daily is an extensively modified 2006 Toyota Tundra pickup.



### *Michael Barrett – Events Coordinator*



Michael Barrett ("Mike" to everyone except his wife and mother) is a retired government attorney, who served as a U.S Air Force JAG, retiring as a Lt Col in 1996, and as a state attorney for the Commonwealth of Pennsylvania. Over the course of his career with the state, he served as Chief Prosecutor for the state's licensing boards; staff attorney for the Pennsylvania State Police; litigation attorney for the state's construction and purchasing agency; and ended his career as Chief Counsel for the Department of Military and Veterans Affairs, which oversees the Pennsylvania National Guard and provides assistance to the state's nearly one million veterans, including six long term care facilities for veterans and their spouses.

Mike has been a lifelong BMW owner, acquiring his first BMW – a 1969 2000 sedan – when he was 19. He discovered the E31 8 series around twenty years ago, and was immediately hooked. His first 8er was a Laguna Green 1993 850Ci purchased in 2000, followed by an Oxford Green 1996 850Ci in 2002; most recently, he acquired a Hellrot 1994 850CSi.

Mike is a 25-year member of the BMW CCA, and has been active in E31 activities ever since acquiring his first one. Mike has been active on the internet forums, and was a board member of the now defunct 8-Fest organization. Since retirement, he's been an active participant in local BMW CCA chapter activities, and the annual Southeast Sharkfest gatherings.



*By Reinhard Wolf*

Thirty Years Ago...

On July, 28 1989, likely within the holiday period, the Diamond Black coloured CB00000 with an interior

named Anthracite cloth rolls off the assembly line. It is likely that this is a stealth rollout - the true beginning of

mass production was still 9 months away.

Vehicle Identification Number	CB00000
Type	EG21 850CI
Colour Code	M 181 DIAMOND BLACK METALLIC
Upholstery Code	0346 ANTHRACITE CLOTH
Engine #	MISSING
Gearbox #	MISSING
Production date	28.07.1989
Order options	
302A	ALARM SYSTEM
320A	MODEL DESIGNATION, DELETION
401A	SLIDING/VENT ROOF, ELECTRIC
416A	SUNBLINDS
423A	FLOOR MATS, VELOUR
488A	LUMBAR SUPPORT DRIVER
537A	PARK VENTILATION
633A	PREP., SIEMENS PHONE OPERATOR H FRONT
652	BMW BAVARIA C II
940A	SPECIAL REQUEST EQUIPMENT

The car can be imagined to have looked like this specimen:



CB00000 and likely all other cars produced in 1989 will never find their way to a customer but remain interned

as test mules. In the end they will go the way of all prototypes and be destroyed. The crash test vehicle pictured below

may have been one of the two 1989 E31s coloured Alpine White and with a dark interior: CB00022 or CB00033.



There are no engine or gearbox numbers for CB00000 through to CB00026 which is another telltale sign for a prototypical car.

CB00000-CB00055 are ECE LHD cars with an automatic gearbox. From Aug. 29, 1989 another 6 ECE LHD cars with manual gearbox, 2 RHD cars and 4 cars for the US market will be assembled.

Until the end of 1989 no more than 67 cars of the type E31 will be produced. The largest part of them

The following table shows all 67 1989 cars sorted by VIN blocks.

Production 1989	Begin	End	Total
ECE LL Auto	CB00000	CB00054	55
ECE LL 6-speed	CB12000	CB12005	6
ECE RL Auto	CB57000	CB57001	2
US Auto	CB72000	CB72002	3
US 6-speed	CB42000	CB42000	1

It is only logical that some of the first production cars will be utilized for pictures in the technical literature and marketing publications.

CB00002 is the first E31 with the order option „S903 SPECIAL CHECK TRADE FAIR/PHOTO VEHICLE“. Until the end of 1989 no less than 6 cars receive that

special treatment and become centerfolds.

Photo vehicles 1989	Production date	Exterior	Interior	Interior colour	Gearbox	Steering
CB00002	29. Aug.	Mauritius blue	Leather	Silver grey light	A	L
CB12000	29. Aug.	Brillant red	Leather	Silver grey	M	L
CB00005	22. Sep.	Sterling silver	Leather Buffalo	Anthracite	A	L
CB00006	22. Sep.	Mauritius blue	Leather	Parchment light	A	L
CB00024	16. Okt.	Mauritius blue	Leather	Silver grey light	A	L
CB00025	16. Okt.	Brillant red	Leather	Silver grey	A	L

During the year of prototypes a number of cars needed to be prepared in order to fulfill the requirements of other

countries. Those cars are identified by the order option "S904 SPECIAL CHECK TEST VEHICLE". 8 different country

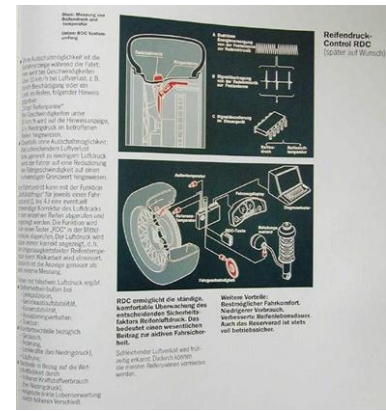
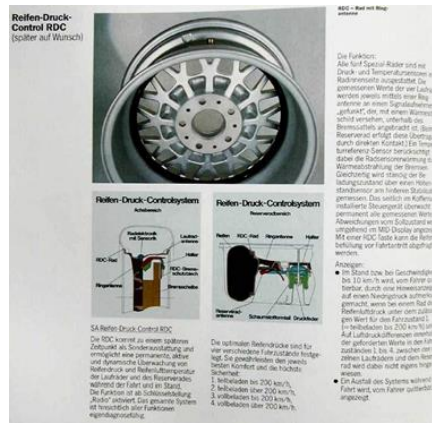
variants can be identified until 1989 ends.

VIN	Country code	Country	Total	Check test vehicle (SA904)
CB00015	819	Spain	1	Yes
CB00036	804	Switzerland/Austria	1	Yes
CB00035	813	France	1	Yes
CB00043	827	Scandinavia	1	Yes
CB00020	807	Japan	1	No
Div.	812	United Kingdom	2	No
Div.		USA	4	No
Div.	801	Germany	32	No
Div.	without	Unknown	24	No



Amongst those cars produced in 1989, 4 of a total of 11 cars can be found with the order option "S260 FLAT TIRE WARNING SYSTEM": CB72000 (USA) & CB00037/38/52 (ECE).

This safety feature has been discussed initially in the literature but quite obviously was not fit for use in 1989/90, hence it vanished without a trace to only make a reappearance in the E38 series option lists.



CB00037 is the first car which in theory can be described with "full options". During the early days there were no

"Individual" options - those came into production only 1991/1992. There is no

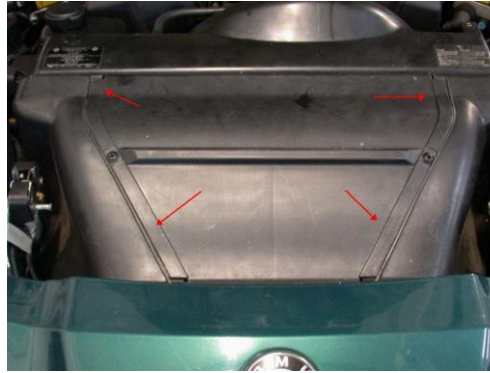
information what S940A might have meant during those days.

VIN	CB00037
S214	AUTOMATIC STABILITY CONTROL+TRACTION
S223	ELECTRONIC DAMPER CONTROL (EDC)
S240	ELECTRONIC DAMPER CONTROL (EDC)
S245	STEERING COLUMN ADJUSTMENT ELEC
<b>S260</b>	<b>FLAT TIRE WARNING SYSTEM</b>
S302	ALARM SYSTEM
S303	BURGLAR AL. WITH TILT ALARM SENSOR
S401	SLIDING/VENT ROOF, ELECTRIC
S416	SUNBLINDS
S423	FLOOR MATS, VELOUR
S428	WARNING TRIANGLE
S430	INT RR VW MIRROR W AUT ANTI-DAZZLE
S459	SEAT ADJUSTM., ELECT'R. W MEMORY F DRIVER
S488	LUMBAR SUPPORT DRIVER
S489	LUMBAR SUPPORT FOR FRONT PASSENGER
S494	SEAT HEATING F DRIVER/FRONT PASSENGER
S500	HEADLIGHT WASHER SYS/INTENSIVE CLEANING
S528	AUTOMATIC AIR RECIRCULATION CONTROL(AUC)
S537	PARK VENTILATION
S633	PREP., SIEMENS PHONE OPERATOR H FRONT
S655	BMW BAVARIA C BUSINESS
S676	HIFI LOUDSPEAKER SYSTEM
S690	CASSETTE HOLDER
L801	GERMANY VERSION
S860	LTRL TURN SIGNAL LIGHT FRT
S940	SPECIAL REQUEST EQUIPMENT

Almost all cars produced in 1989 have been lost without a trace. The only exemption is CB00044 which almost survived only to be parted out in 2008 to live on in a number of younger E31:

bodies. CB00044 showed identical order options to the above CB00037 with one little detail differing: SA260 was missing, pity that!

CB00044, production date: December 12, 1989



Only two attachments per side



Round exhaust tips



No BMW Sill Plate



Of course, not all of the prototypes came equipped with such splendor. Let us have a look at the light weight CB00004 and smile:

<b>VIN</b>	<b>CB00004</b>
Type	EG21 850CI
Colour code	086 SCHWARZ
Upholstery code	0346 STOFF CARRE/ANTHRAZIT
Engine #	MISSING
Gearbox#	MISSING
Production date	22.09.1989
Order options	
652	BMW BAVARIA C II
940A	SPECIAL REQUEST EQUIPMENT

The oldest E31 that is known to still roam the German roads is CB00105 produced on Feb. 23, 1990. Up until and including

February 1990 the monthly production rate remained low. One can say that

production of the E31 started in earnest in March 1990.

Year	Month	ECE LHD A	ECE LHD M	ECE RHD A	ECE RHD M	USA A	USA M	Total
1989	July	1						1
	August	3	1					4



	September	11						11
	October	13						13
	November	7	3	2		3	1	16
	December	20	2					22
1990	January	1	15	4		6	1	27
	February	48	11		4	1	3	67
	March	162	13	1				176
	April	329						329
	May	342	11	1	1	3	4	362

Likely the first E31 that went to see the world without being interned in the Dingolfing factory first is CB00136 produced on March 10, 1990. Imagine the joy and pride of the owner taking delivery back then....

<b>VIN</b>	<b>CB00136</b>
Type	EG21 850CI
Colour code	M 287 MAURITIUS BLUE METALLIC
Upholstery code	0353 SILVER GREY LIGHT LEATHER
Engine #	60224790
Gearbox #	0056829ZGY
Production date	10.03.1990
Order options	
214	AUTOMATIC STABILITY CONTROL+TRACTION
245	STEERING COLUMN ADJUSTMENT ELEC
401	SLIDING/VENT ROOF, ELECTRIC
416	SUNBLINDS
423	FLOOR MATS, VELOUR
428	WARNING TRIANGLE
459	SEAT ADJUSTM., ELECTR. W MEMORY F DRIVER
494	SEAT HEATING F DRIVER/FRONT PASSENGER
500	HEADLIGHT WASHER SYS/INTENSIVE CLEANING
528	AUTOMATIC AIR RECIRCULATION CONTROL(AUC)
655	BMW BAVARIA C BUSINESS
801	GERMANY VERSION

The first documented car with a warranty history is CB000154, built March 13, 1990. It was taken to the workshop for warranty replacement of batteries (possibly the first ones) in September 2000! with only 1700 miles on the clock.

The rarely used oldster can possibly be seen roaming the Costa del Sol in Spain. Unfortunately the data that has weathered the last two decades is exhausted here. Data and pictures shown above have been provided by the generosity and enthusiasm of Jud, Gunther and RainerB12. Thanks

for that ...it's been going in and out of style...

...but it's guaranteed to raise a smile

Cheers  
Reinhard

By Henry Christoff



Sunday, April 7th Tim Horton's (near Wuffer's Garage & Spa)

Sunday turned out to be one of the best days we could recall for the start of the BC 8's Event Season. It wasn't cold or very damp and rainy as in past years, but actually some sun and mild spring temperatures! A total of six E31's attended along with one E34 M5 owned by Glen G. Derek P., a new member of BC 8's, arrived in his 1995 840Ci - Cosmos Black with grey interior. It was noted that every 8 Series attending had the headlamp washers option - which were standard fitment on all Canadian spec E31's. In the photo from left to right: Andrew, Henry, Daryl, Tom

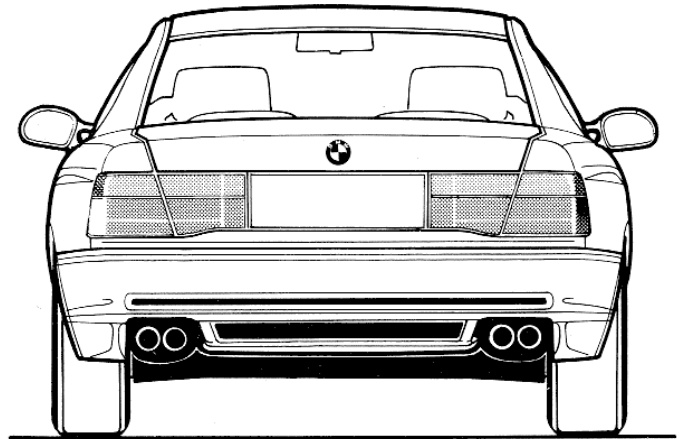
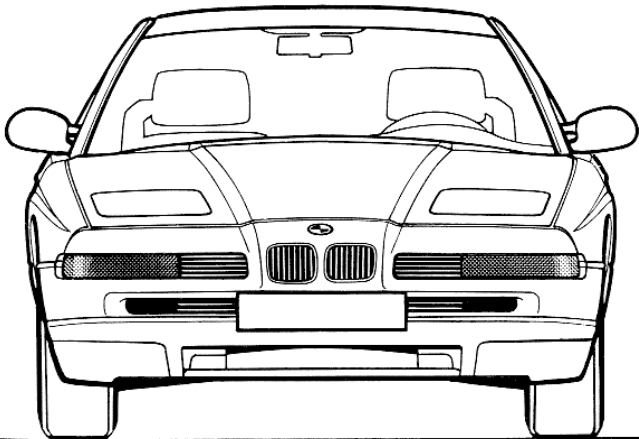
(Wuffer), Derek, Martin and Glen. Not in the photo, Derek's BMW enthusiast friend, Dan. (Thanks to Dan for taking the group photo!)

Andrew N. had recently returned from three weeks in Europe and while there attended the Geneva International Auto Show. He provided the group an excellent slide presentation on his laptop and had many interesting auto show brochures and stories. (Thanks, Andrew!) Andrew also shared his experience leaving his laptop at an airport security check-point and not realizing it was missing until he arrived at the end of his flight at his next destination! Fortunately, he was

reunited with his laptop from the security people at the airport where it was left behind- talk about a lucky guy!

For those BC 8's folks who missed the E31's & Coffee, the next event is the E31's Drive For Pie & Breakfast Saturday, April 27th at the locally famous Hill Top Diner near the Langley airport. This will be an RSVP event as the Hill Top Diner is a very small venue and can only accommodate a limited number of people.

If you would like to attend, please e-mail me ([hchristoff850@telus.net](mailto:hchristoff850@telus.net)) to reserve your place. Additional details will follow shortly!



By Michael Barrett



The Southeast Sharkfest is a celebration of BMW's modern classic coupes; the E9, E31 and the eponymous E24, whose shark nose gave rise to its nickname. Now in its 17th year, Sharkfest is an annual gathering of likeminded people who meet each spring somewhere in the southeastern United States to have some fun, swap some tall tales, and share their love for these classic machines. This is my story of attending the most recent event, held April 25-28, 2019 in Spartanburg, South Carolina.

## **Part I – (In Which I Confirm My Wife's Belief I Am an Idiot, and She Saves My Bacon)**

Since this year is the 30th anniversary of the introduction of the E31 8 Series, Sharkfest agreed to highlight the model. Sharkfest began as an E24 6-Series group, but has expanded to include both the E9 and E31. Being privileged to own two of the latter (a 1996 850Ci, and a 1994 850CSi), I opted to bring

both to this year's event, and managed to sweet talk my wife Linda into not only attending, but also driving our 850Ci. However, nothing ever goes as planned.

We weren't a mile from home when the 850Ci threw a Check Engine light. It's been doing this every six months or so for the past couple of years, for no discernible reason. My dealer hasn't been able to diagnosis the issue, but since drivability isn't affected, I typically just reset the light and soldier on. I knew, however, that my wife wouldn't want to stare down that light for the next four days, to include over 16 hours behind the wheel, so we returned home so I could reset the light. Problem solved, but now we were 45 minutes behind schedule.

The next glitch occurred during our lunch stop. Having become accustomed to driving a new X5, which doesn't even require a button push to

open the doors, I couldn't seem to unlock the 850CSi when I returned after eating (I was pushing the wrong button). So, I just opened the door with the key in the door handle, which set off the alarm – and also disabled the ignition. My wife said "here, try my key," which she had brought with her. Problem solved, and on we went, pausing only long enough for her to point out how lucky I was that she was so thoughtful.

Next, the phone charger in my wife's car stopped working, and her phone died. We bought a new one (at outrageous truck stop prices) when we stopped for gas. While my wife used the restroom, I pumped gas in her car, and then started pumping gas in mine. I cleaned the bugs off her windshield, and then cleaned them off of mine. Both pumps having clicked off at this point, I noted that her car took 15 gallons of fuel, then buttoned mine up without ever actually looking at the pump. Unbeknownst to



me at the time, my pump had clicked off without actually adding any fuel. Back on the road, I noticed that the fuel gauge still read less than ¼ of a tank. "Crap," I thought, "the fuel sender has broken." In my defense, this had happened a year or so ago to my wife's car, and I assumed lightning had struck twice, as I blithely watched the fuel level march steadily toward zero.

Somewhere near the North Carolina/South Carolina state line, my Check Engine light started to flicker, and the car started to die. I darted off at the exit that suddenly appeared, coasted to the bottom of the ramp, and stopped in the middle of the road where the car died, and refused to restart. At this point I sheepishly told my wife I might be out of gas (without explaining why), and sent her up the road to find a gas can and a couple gallons of fuel. These cars always attract attention, and several people stopped. One helped me push it out of the road to the shoulder, and even offered up the name and phone number of the closest foreign car repair shop.



*Sharks at the Michelin Proving Grounds*

The car gods smiled on us, because while the nearest gas station had no gas cans, it was right next to a Dollar General store that sold them. Fortunately, the gas did the trick, and got me started. I drove back to the station, and this time actually filled the tank. While at the pump, an admirer commented on my car, and, assuming I was a local, asked me if I had ever seen another car like it in the area. I pointed to where Linda was parked across the parking lot, and asked "You mean like that one?" "That's it!" he exclaimed.

Shortly thereafter the air conditioning in Linda's car died. Luckily the weather was mild, and, although not her preference, driving without the a/c wasn't unbearable.

We managed the rest of the trip without any significant issues, but arrived about three hours later than planned, getting to the restaurant where that night's dinner was held just as everyone was leaving – but we both felt, at the very least, that a margarita was required.



*8 braking for the next corner*

## **Part II – (In Which We All Have Big Fun)**

The next day was the real start of the Sharkfest events. Despite an early forecast of rain throughout the weekend, the weather turned out to be perfect. Most of the attendees lined up their cars for a Spartanburg Police Department escort through town on our way to the Michelin Proving Grounds test track, and an opportunity to test our high-speed driving ability in our own cars. As we were running our officially sanctioned third red light, Linda commented that this was probably the first time so many BMW drivers had no fear of the police.

The Michelin track was a two-mile road track, with twelve curves, some sweepers and some fairly tight, combined with several elevation changes. Lacking a long straightaway, it was more about finding the line and car control, rather than reaching top speed. Liability issues precluded actual timed events, which would be considered 'racing', so I just focused on hitting the apexes and getting around as fast as I could. My 850Ci has a mildly modified suspension, and I've wanted an opportunity to test it for several years. I was fairly pleased with my performance, and more so when I later heard a 6er driver tell a non-attendee that 'you could only get up to about 60 mph or so' – since I was pushing 80.

However, there were a few E24 drivers who no doubt went even faster.

More importantly, Linda (who loves performance driving, and is a proud graduate of the BMW Performance Center M-School), asked me to ride with her as instructor. I thought she did a fine job, and took all my instruction well – no arguments or hurt feelings. That's proof to me of a strong loving relationship!



*Stalking...*

After we returned from the test track, there was free time to just relax or check out Spartanburg's Spring Fling, which was happening just a few blocks from the hotel. However, most of us starting cleaning and polishing our cars in anticipation of the next day's main event – the concours. While Sharkfest and its sponsors provided a venue for washing cars, I decided to look up touchless car washes online. I candidly confess that as I age, some shortcuts look better and better to me. I drove to a nearby one, only to see a fellow Sharkfest attendee washing his 6er in a wash bay. I had recently had both of my cars ceramic coated, so I just wanted to clean the road dirt off the car. However, midway through the wash cycle, the carwash froze, and just continued pumping soapy water on my hood. The owner quickly appeared, and told me a recent power outage had affected the equipment. He directed me to a wash bay, and he rinsed all the soap off my car by hand before directing me back to the car wash to try again.

Same result. Again, he rinsed all the soap off my car, but by this point, I felt that I had achieved the desired result of getting the car clean, so I returned to the hotel to get ready for that night's dinner.

Everyone had an enjoyable dinner at a local restaurant, with most of us sharing



stories about the day's events and getting to know new friends or reconnecting with old ones. Then it was back to the hotel. Despite normally being a night owl, I went to bed early in order to get up early and wash the other car before the concours event.



*Sharks at Sharkfest*

The weather the second day was even more beautiful than the day before. After breakfast, I took my other car to a different car wash, and then we all lined up in order of model, and judged or non-judged category, in order to arrange them all on the lawn next to the hotel.



*E9's on the lawn*

All told, there were 6 fantastic looking E9 coupes; 16 E31s, including 4 850CSi's, and one Alpina; and over 80 E24s of every variety – M6s, 633 and 635CSi's, Euro models, as well as a couple of race prepared coupes. While many attendees come from the Southwest US, there were more than a few of us Yankees in attendance, some from the mid-west, and one enthusiast came all the way from Japan. He promised to not only come back next year, but to bring his car with him!



*Sixteen 8's lined up for the Concours*

Another couple of hours of final touch ups, and it was 'rags down.' We had a great lunch on the hotel patio overlooking our cars, and then it was free time while the judges did their thing. I had entered one car in "Clean"

and, for the first time, one in "Super Clean". That was a learning experience for me, both in terms of all the extra work I had to do, as well as watching the judges pore over the cars in the Super Clean category.



*E31's on display*

The judges literally crawled around each car on all fours, and poked, prodded and explored each car more intimately than my family physician during my annual physical. The beautiful weather even allowed me to get my first sunburn of the season, much earlier than I normally would back home in Pennsylvania. We spent the rest of the day mingling, ogling each other's cars, and generally enjoying the comradery. Because of the proximity of Spartanburg's Spring Fling, we even had several local citizens wander in to see what we were all about.



*Marcia & Roger Wray's Alpina B12 5.7*

Finally, it came time for our banquet and awards ceremony in the hotel ballroom. While a slide show of the past two days events played on a big screen, we enjoyed drinks and good company, and then came the all-important awards. First, Second and Third prizes were awarded to the best E9, and two sets of prizes for the E24 and E31 cars, in both the Clean and Super Clean categories.

There were so many great looking cars at this event that I don't envy the judges, but the top prize really came as no surprise to anyone. Marcia and Roger Wray's recently restored Alpina B12 5.7 – one of only 57 in the world – not only

took first place in the E31 Super Clean category, but also Best in Show, as well



*Sharks everywhere!*



*Sharkfest is a Family Fun event!*

as the People's Choice award. A well-deserved trifecta for an absolutely gorgeous car.



*Roger receiving 1st Place Super Clean award*

There was also a raffle of prizes to raise money to help offset Sharkfest's expenses. While obviously a BMW oriented group, it isn't affiliated with either BMW NA or the BMW CCA. This year saw some really great swag raffled off, such as P21s car care kits, gift certificates, motor oil and filter kits, and some extremely nice cordless tools from Chicago Pneumatic. Linda won a P21s car care kit, which she declared would be my Father's Day gift, and that I should use it on her car. While some of the group stayed up late swapping more tall tales, we retired early for an early start on what we hoped would be a pleasant but uneventful drive home the next day.



## Sharkfest 8 Series Awards

### E31 Clean

1. George Whitely 1994 850 CSI
2. Larry Swaney 1994 850i
3. James DiCarlo 1991 850i

### E31 Super Clean

1. Roger Wray 1995 Alpina B12/5.7
2. Lee Fields 1994 840Ci
3. Kenneth Jack 1995 850CSI

### People's Choice

Roger Wray 1995 Alpina B12/5.7

### Best in Show

Roger Wray 1995 Alpina B12/5.7

## Part III – (In Which All Our Dreams Come True)

Our drive home took us through some of North Carolina and Virginia's majestic

mountain scenery during even more outstanding weather. We couldn't have asked for a better ending to a great long weekend. The cars performed as they should, the streaming music from Spotify sounded great, and the gasoline went where it was supposed to, in the desired quantities.



*Michael in Linda's wake on the way home*

One unexpected consequence of our trip occurred when we arrived home. Linda, truthfully, has never been quite the E31 fan that I am. However, she announced that she really enjoyed driving the car; despite owning one for more than 18 years, she had almost always been a passenger, rarely a driver. I expect that will be changing in the future. In fact, her last words of the day were "Next time I want to drive the 850CSI."



## E31 Running the Valley of Fire

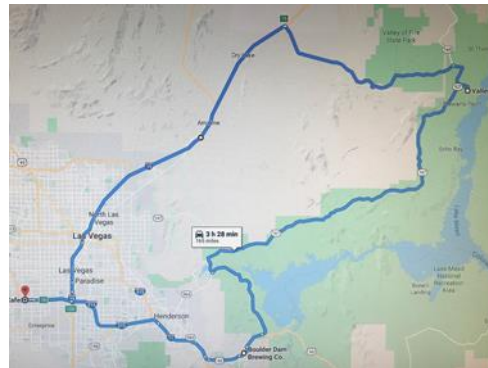
*By Brian Ratke*

I ran point, on what turned out to be nearly an all-day car run, with the Las Vegas, NV, BMW CCA Sin City Chapter. Not that I'm complaining about running point as it was the only logical and emotional choice for the BMW flagship 850CSI.



*Massive rocks make the CSI look SMALL*

We met at Gears and Grinds, on a beautiful spring Sunday morning, for driver fuel and a game plan. We left the Baguette Café, where Gears and Grinds meets the 2nd and 3rd Sunday, around 10 am and didn't return until approximately 6pm. Our plan was to go through one State Park, one National Park, and stop at a brew pub, without any break downs, tickets or arrests! Success!



*The route*

We entered the Valley of Fire, a Nevada State Park, known for its' "40,000 acres of bright red Aztec sandstone outcrops nestled in gray and tan limestone... containing ancient, petrified trees and petroglyphs dating back more than 2,000 years." We stopped for a few photo shoots amongst the red rocks and to stretch our legs on a little hike to Mouse's Tank. This area was named for a renegade Indian, Little Mouse, "who used the Valley of Fire as a hideout in the 1890's after he was accused of killing two prospectors and other crimes in the area." From there we ventured into Lake Mead National Recreation Area, the nation's largest man-made lake formed by the building of Boulder Dam, now known as Hoover Dam.

The roads through the two parks were all two-lanes with vast stretches of endless desert in full spring flower bloom. Through the mountainous twists, slow banking turns, countless hills and valleys we made our trek to downtown Boulder City. We ended our group event at the Boulder Dam Brewing Company for some food and craft beer. Here we relaxed and recapped the day while being surrounded by actual equipment used to construct the dam that adorned the interior and beergarden.



*CSI in the Valley of Fire State Park*

As for #93, the Oxford Green Metallic CSI, she performed flawlessly! I stepped out of her, at the end of the day, after putting on 185 miles, with an average speed of 52.4mph and consumption of 15.7mpg, just like I stepped into her in the morning, refreshed!



# E31 BC 8's Wrenchfest & Cookout Celebrating Wuffer's Birthday

By Henry Christoff



Saturday May 18th - the first WrenchFest of 2019 which included a cookout (hosted by Mrs Wuffer) to celebrate Tom 'Wuffer' Carter's 75th birthday. Can this be right, Wuffer 75 years old?! A great way to say "Thank you" to Wuffer who has contributed so much to the E31 community!



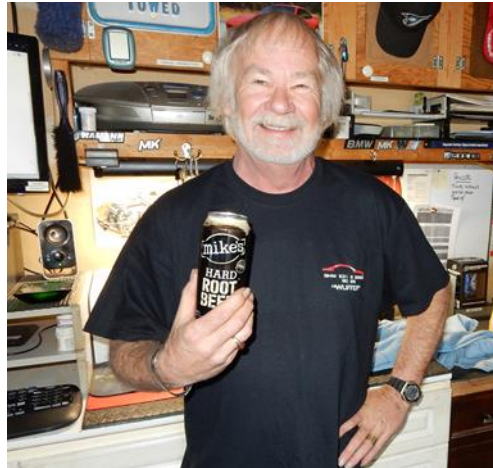
Happy Birthday Tom

There was quite an assortment of E31's (Calypto Red was the dominate colour!) on hand and one very nice Porsche 924S, with collector plates. Surprise guest, Rob Scott from Alberta, was in attendance, driving his silver E31. If there was an award for longest distance driven, he would be the winner.



Andrew and Norm at the Wuffer Man Cave

Appropriate dress required for the event, Tom was seen sporting the latest BC 8's t-shirt, with the BC 8's red E31 silhouette on the pocket and back of the black t-shirt.



Tom enjoying some liquid refreshments



Dietmar, Martin & Daryl



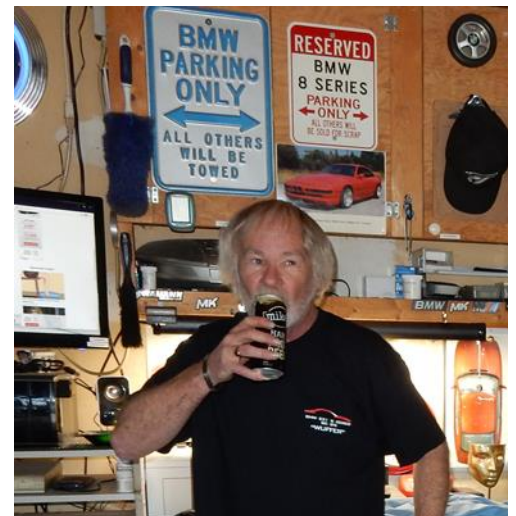
Mrs. Wuffer Cupcakes – BMW style

The WrechFest was more social than folks actually working on cars. Mrs Wuffer did an excellent job organizing the food, of which there was plenty, and out did herself with the BMW themed birthday cake (black forest, yum!) and Cupcakes.

Hamburgers and hot dogs from the grill were the main course with event music supplied on vinyl by Daryl. Yes, that's right, only analog music for the guest of honor – vinyl is back!



Beautiful weather and BC 8's E31's on display



Caught in the act in the Man Cave!

WrenchFest / Cookout Attendees: Tom aka Wuffer, Martin, Daryl, Cary, Andrew, Tim, Rob, Henry, Derek, Dietmar, Norm and Ted.



By George Whiteley



I've been involved with classic BMW cars since they were new. Does that make me a classic along with them? I would suppose so, but it is wonderful to witness the cars I grew up with become classic along with me. It has been a decade since I first started attending one of America's preeminent classic BMW events. Initially called Vintage at the Vineyards, well, because it was held in a vineyard, then afterwards, simply, The Vintage, as it moved to other locations. I have had the pleasure of witnessing this event mature into a mega happening for classic BMW car enthusiasts from all over the United States. They came from Maine to Florida, Texas to Virginia and even from the Fatherland in Germany to hang out with their kindred spirits and share experiences along their journeys from getting in accidents, accumulating tickets, breaking down and just plain cruising in style. The Vintage is the largest gathering of classic AND vintage BMWs on the East Coast, and arguably the entire country. This year there were nearly 700 cars with easily twice that many attendees and spectators who showed up for picture perfect weather in the majestic mountains of western North Carolina.

All this is the brain-child of Scott Sturdy who had the creative vision to want to have fun with his fellow BMW buddies



who love the adventure of driving older cars that are on the cutting edge of yesterday. It began with the humble, but iconic 2002 and has morphed into even older cars from the diminutive Isetta and 700 badged cars that were mutually responsible for saving Bavarian Motoren Werke from fading into obscurity. Along the way, other "more modern" Bimmers were added to the party to include the venerable 5 series that was the featured BMW of this year's Vintage celebration. Fortunately for all of us E31 owners, Scott has seen

fit to include us along with the more "vintage" cars at his venue. This has not always been the case as several years ago it took some fancy maneuvers from Kai Xing and Nat Arnold to convince Mr. Sturdy to include a few 8 series cars at The Vintage when the SE SharkFest group—an annual celebration of all classic BMW big coupes pitched in with Scott at The Vintage when it was held in downtown Old Salem—an 18<sup>th</sup> century Moravian village just blocks from modern Winston-Salem, NC. Since then our venerable 8 series have been welcome at The Vintage.

This year's Vintage weekend started off with an army of old cars cruising, limping, and trailered into to the official host location, the Clarion Hotel just outside of Asheville, NC. Scott Sturdy used to live in the Winston-Salem area and has now relocated to Asheville taking The Vintage with him. The event has continued to grow exponentially, overwhelming all of its previous locations.





As a special part of The Vintage weekend, a number of participants chose to enjoy an exclusive event at the BMWCCA Foundation, making the hour trek from Asheville to Greer, SC to do so. The Foundation, located across the street from BMW Manufacturing, and backing right up to the BMW Performance Center track was the site of the premier opening of the exhibit, PASSION--50 Years of BMW Cars and Community. When the attendees arrived, the parking lot outside of the Foundation building was soon filled with an impressive mix of Bavaria's finest, filling a big grassy field immediately adjacent, and was the first unofficial car show of the weekend.



Inside, a lot of hard work went into PASSION, the third amazing exhibit that the Foundation has designed and hosted. On display were 24 hand-selected cars that told the history of BMW from the advent of the Neue Klasse cars to the present era beginning with a pristine 1969 2002 and ending with a 2015 i8. Our beloved E31 Eight Series was represented by yours truly with his '94 850CSi. The cars on exhibit were carefully chosen to represent the five decades the BMW Car Club of America has been in existence. The Bimmers on display were as varied as their owners who were present alongside their rides. The cars' owners also played a part in the development, or contributed in a



*George and Sue Whiteley's 850 CSi on display at the BMW Foundation*

significant way to the BMWCCA, thus bringing the "and Community" part into the exhibit. It is an impressive array of various BMW models, some highly modified, some absolutely stock dating from the 1960's to now, surrounded by the largest collection of BMW memorabilia outside of Munich. It was all artfully designed and arranged by the skillful hands of BMWCCA Foundation Curator, Michael Mitchell, and the employees of the BMWCCA Foundation along with a legion of volunteers. Along with the cars and decorous surroundings, attendees were treated to an enthusiastic introduction by Jackie Jouret, well-known in the journalistic BMW world and author of all the catalogs for the Foundation exhibits.



*Jackie Jouret and George Whiteley*

Jackie toured the exhibit hall talking about each one of the cars on exhibit and interviewing their owners. Afterwards there was a panel discussion and door prizes given away to lucky

ticket holders. It is a very impressive exhibit accompanied by an equally impressive published catalog and a must-see for any BMW enthusiast.



Meanwhile back in Asheville, The Vintage began there with some spirited driving, not on expressways, nor busy urban streets, but rural scenic backroads with some of the finest mountain twisties anywhere in the East. All routes led back to the Clarion where there ensued a Bimmer party beyond belief. The folks at the Clarion have been the hosts of The Vintage for several years and are used to overflowing parking lots full of rusty, dusty, clean and pristine, ancient, and



not quite so old BMWs and their respective owners drinking beer and swapping stories into the wee hours of the night. The scene is amazing and an impressive car show in its own right. It's quite the gathering of old friends and newbies all renewing friendships or getting acquainted on the common ground of the Clairon asphalt.



Unlike last year's event that was a rain punctuated weekend, this year dawned beautiful and dry, as the various groups gathered to set off for the show field at Hot Springs--a beautiful little village about an hour northwest of Asheville. Scenic Hot Springs is located on the French Broad River where the Appalachian Trail runs right through town. The little burg has seen many motoring events from Harleys to Porsches and has been the official Saturday show of The Vintage since moving to the Asheville area. The ride



from Asheville to and from the show site in Hot Springs is always fun caravanning with groups of different BMWs. The ride down into the gorge of the French Broad River is a series of freshly paved switchbacks allowing the lines of Bimmers trying to find their own lines through the curves. The scenery is equally entertaining as the road runs through part of the Nantahala National Forest, culminating over the bridge crossing the shimmering French Broad

just before arrival into downtown Hot Springs.



Participants started filing in just before 10AM and soon filled the field next to the river to capacity. It was a classic BMW lover's dream with every variation of any senior Bimmer you could name and some you likely never knew existed. Alpina, Hartge, Baur, European and American models, along with race cars were all there in their glory. Clusters of similar cars and singular rare ones filled every inch of space accompanied by numerous vendors selling unobtainable parts, along with various BMW Club and dealer tents, and food trucks bringing sustenance to the crowd. There were more E12, E28 and E34 Five Series cars than I have ever seen in one place before. Also present were uncountable 2002s in all hues of



bright "safety" colors along with a special area for classic M cars. The scene was a panorama of everything from pristine E9 coupes parked next to rust bucket rat rods. Since my 850CSi was on exhibit at the BMWCCA

Foundation, the ride of choice this year was my '85 Euro M635CSi.



Yes, the E31s were there too, with fine examples of an 840Ci, 850i, 850CSi, and Daniel Polom's rare MK Motorsport 850 all scattered about in the brilliant mountain sunshine. The iconic shapes of our cars were in stark contrast to the boxiness of the 2002s and five series four-doors. There were other big BMW coupes out on the field as well with numerous E24, Six Series' and beautiful E9, 2800 and



3.0CS coupes in attendance. Other cars included a healthy showing of the venerable E30 Three Series, and especially an exceptional grouping of



concours worthy E30, M3s. The Vintage is all about camaraderie and not a concours which takes the competitive pressure off and gives the event a pleasant low-key vibe. This is not to mean that people were not dotting over the cleanliness of their cars, as most were presented beautifully anyway. It was also great to see a lot of enthusiastic younger folks with their cars there, the most I've seen so far.



After the show as the sun started to decline through the mountain peaks, the participants made their way back to the Clarion for a final evening of revelry, relating stories of their trips to this year's and past events and all things BMW--many of which are told and illustrated on The Vintage's Facebook page for all to see.



There were some unfortunate tales in reference to the "pleasures" of classic car ownership with one pristine 2002 owner getting his car smacked in Virginia by a person who pulled right out on front of him without warning. Others told of breakdowns and roadside assistance by other Vintage

goers pitching in to get the old cars running. I was not immune to this scene either. I have a very nice, low-mileage, '85 E24 Euro M6 that ran as beautifully as it looked throughout the weekend.



On Sunday, my wife and I decided to take the scenic way back to our mountain home in Blairsville, GA via the Blue Ridge Parkway. It was a cool and beautiful day as we made our way back from the Asheville area up to the highest point of the entire Parkway at 6053 feet and down the other side. The car was running perfectly in the cool mountain air and I enjoyed rowing through the gears with its tight short shift kit.

After a continuous down the mountain run of about 10 miles we crossed over the main artery of US 23/74. When we went across the bridge I downshifted to go back uphill and the gear shift lever was putty in my hand and I wasn't able to get the M6 into any gear. Well, progress came to an abrupt halt without any warning and we were stranded by the side of the Parkway in a grassy area. A call to Hagerty ensued and for help from fellow BMW enthusiasts, and long-time friends in nearby Wayesville. While parked by the side of the road awaiting assistance several BMWs from Saturday's show slowed or stopped with offers of help. My Waynesville friends, Bill and Norma Price showed up and we surmised that the clip that holds the shift

rods to the shifter had gone missing, so it was not going to be a roadside fix without that part.



Meanwhile, my good car friend Bob Shapiro and his wife Georgia, who spent time with us over the weekend, unbeknownst to us, were travelling the same direction enjoying Georgia's new M240 convertible and stopped when they saw us. It was a mini BMW convention by the side of the road and every other BMW that passed us waved or honked. Such is our band of brothers and sisters. Anyway the story



had a happy ending albeit a long wait for a tow truck and the M6 was taken back to Atlanta for repair and we were loaned one of the Price's BMWs to continue back to Blairsville. At least we were stranded near a major highway and not on it, instead enjoyed the relative peacefulness of the Blue Ridge Parkway instead of cars zooming by only inches away from our door at 70+ miles per hour.

This is all telling about what a wonderful group of people BMW owners are and about the kinship we all share. The Vintage personifies this point and is an event not to be missed. I'll look forward to getting my 850CSi back from the Foundation and seeing some more E31 enthusiasts at next year's event. Everyone with classic BMWs is welcome. For more information, please see [www.atthevintage.com](http://www.atthevintage.com).



By Henry Christoff



Sunny skies and perfect spring temperatures were the order of the day as five E31's met at the rendezvous point- Open Road BMW in Langley-before heading into the BC interior to Harrison Hot Springs then on to Hope. BC8's folks attending: Tom ("Wuffer"), Martin, Andrew, John and Inky, Henry and Kirsti. Vic and Chris had originally RSVP'd, but his car would not start and they missed the event. Regardless, we were a small but mighty gathering of owners and their 8's!

drive from Harrison to Hope via BC Hwy 7- which was very picturesque and little in the way of traffic.

NEXT EVENT: Saturday June 15th the Fraser Valley Classic Car Show (<https://fvccs.ca/>) in Chilliwack. Proceeds benefit the Chilliwack Hospital. You must pre-register for this event. Register your car on line at the FVCCS website. Registration is by donation. Please contact Andrew directly ([andrew.ng.designer@gmail.com](mailto:andrew.ng.designer@gmail.com)) after you have completed the registration as he is the event coordinator.



E31's at the Old Settler Pub for lunch



Meet point, Open Road BMW in Langley. From left to right: John, Tom (Wuffer), Martin, Andrew & Henry (squatting).

A lunch stop was planned at the Old Settler Pub in Harrison Hot Springs and we arrived to find side-by-side parking for all our cars in the parking lot of the restaurant. After a relaxing repast, the group organized for the 50-kilometer

Upon arriving in Hope and parking our cars, we ventured to the Dairy Queen for ice cream treats, and afterwards strolling the metropolis of downtown Hope. As you can see from the photos - we all had a great time!



E31's have arrived in the downtown metropolis of Hope



Martin and Wuffer discuss the drive

NEXT EVENT: WRENCHFEST: Weekend of June 21,22,23 - BC8's drive to Cochrane, Alberta and WrenchFest with the Alberta 8s. Please contact Tom (Wuffer) directly if you plan to attend. He is the coordinator for this event. [wuffer@shaw.ca](mailto:wuffer@shaw.ca)



Koenig KS8 Turbo E31





By Reinhard Wolf  
Registrar, 8.Coupe.com  
Giessen, Germany

**Note: These parts will soon be available soon for distribution here in the US and Canada.  
An announcement will be made as soon as these are made available.  
For any questions, please send inquiries to: NLNLA@8Coupe.com**

## The NLA Problem

Owners of aging and old cars such as the BMW 8-series in its 30th year have all come across the situation that a plastic part needs replacement. It maybe just fell apart as a result of old age, got damaged in the process of removal or reinstallation or somehow vanished although it was thought safely stowed away.

A quick look into the parts catalogue can lead to a sigh of relief or a heart stopping moment. The desired part is "NLA" (No Longer Available) or in the case of the German based electronics part catalogue tagged with an unpromising capital "E" for "Entfallen" which means nothing less than: don't wait for us to make that part again.

Of course, this is nothing that comes unexpected. BMW for instance has a rather comprehensive replacement parts support but it is only natural that they would not keep parts until the end of days whilst their portfolio is growing exponentially.

This means that after 20 years parts (if not already used up) are getting aged off their systems and warehouses. The major part will be put under the control of BMW Classic, parts considered less vital/economical sold off to dealers henceforth blocking their storage capacities. Some other parts will just be scrapped, uhh, this is 2019, of course recycled.

The BMW parts catalogue lists roughly 10.000 replacement parts for the E31 of which ca. 4.000 had been tagged with the dreadful "E" already in 2011. To date it is safe to assume that no less than half of all the spare parts numbers have been aged off and become NLA.

Here comes the day where a part cannot be found anymore no matter how hard

you look and people have to turn to the usual suspects: wreckers, used part dealers.

What options do we have? There is always a method to mend broken things: welding, gluing, screwing, stapling...you name it. If parts have gone missing they can also almost certainly be remade. At a cost. If money is not of concern then one will always find a specialized company stepping in and offering their services.

The main problem here, next to possible copyright issues, is the order dimension. If you need only the one part you will either shell out obscene amounts for your "one off" e.g. injection moulded plastic part or distribute tools and manufacturing costs and try to rid yourself of a 500 lifetimes stock of the desired part.

**Why don't you...**  
MAKE it yourself then?  
After all this is the 21st century and everyone can MAKE whatever he or she desires, right?

Yes!  
In theory. In practical terms, after you jumped into the boat by e.g. buying a 3D printer you can create copies of all that of which you have a useful data set aka a digital copy of a print object.

You have become a maker!  
Hold on. Digital copy of a print object? We've got to consider this in more detail. All manufacturing needs a set of data to work with. This data holds all the dimensional and geometrical constraints of an object. Without this you are alone with a piece of wood and a carving knife. Somehow you need to acquire this data else you cannot proceed. There are thousands and thousands ready to print objects e.g. on

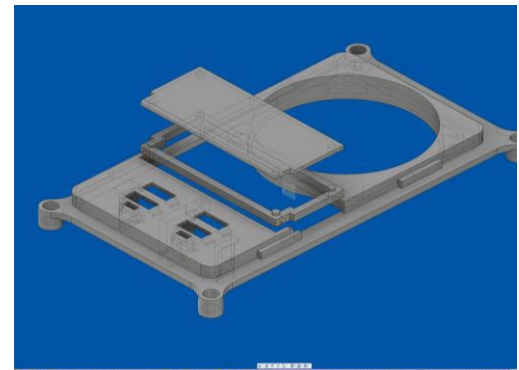
**Thingiverse** but with a likelihood of near 100.0% not the ones you are in need of. A different approach is needed. The 3D printer alone is only one piece of this DIY endeavor. You did not actually jump into a boat - it was cold water only and you now have to learn to swim first!

**How to....**  
This is the moment to shatter maker dreams or inspire to go on a hike along a steep learning curve if your profession lies outside automotive (or similar) construction.

Here's some tools (there are others, much more sophisticated ones):



And this is where it is going to lead you:



Having learned to walk the ways of Computer Aided Design (CAD) you're set. Simple as that.

Give or take a few, many, a lot of hours a first object has been shaped on screen.

Time to MAKE. 8's appear to be a good start. More about this later.



These (plastic) items, all recycled by now, have been made via an "additive manufacturing process", a method that has come to be known as 3D-printing.

The 21st century methods:

**FDM** - fused deposition modeling. Plastic extrusion similar to desktop inkjet printing, just very much slower. Take a string of plastic, melt the string and deposit the molten material in a pattern on a surface thus building up a three-dimensional structure.

**Pros:** very cheap\* method to quickly\*\* make "things". Thousands of "ready to print" templates available. Many functional items, mostly toys.

\* compared to injection moulding

\*\* compared to a lifetime

**Automotive:** rapid prototyping and redesign, provided geometrical (CAD) data is available (see above)

**Cons:** even small items can take hours to print, 2nd print takes just as long. Cost factor electricity (heated nozzle & printing surface). Stability along printed layers severely restricted. Optical appearance (layering) often requires post processing (grind & paint)

**Common FDM materials:**

**PLA** - hard, brittle, softens quickly (ca. 60C/140F onwards). Not useful for automotive purposes. Useful for prototypes, dwarves and dragons only. **PETG/CPE** - excellent physical properties, higher thermal stability (ca. 85C/180F). High tensile strength, more elastic than PLA, not very brittle. Works for automotive parts not subjected to high strain or excessive temperatures (e.g. engine compartment)

**ABS/ASA** - think LEGO here. One cannot destroy LEGO. Rather sensitive to some solvents. Much higher thermal and physical stability (>100C/>210F). Not elastic. More difficult to print than above.

**TPE/TPU** - thermoplastic material, whenever soft(ish), rubbery items are needed. Very slow to print.

**Exotics:** PA (Nylon), PEEK (PEKK) - require special setup. Extremely high print temperatures. Uncommon but with very interesting physical properties. PA is standard material everywhere in the automotive world!

**Cost for 1 piece:** 1-digit dollars plus CAD cost.

**SLA** - Stereolithography:

Resin based, UV or laser cured liquid polymers. "Don't do this at home kids" printing. Excellent detail, little physical stability. Mostly for small dwarves and tiny dragons. Printers becoming available quickly for the consumer market.

**Pro:** printing speeds scales nicely and is the same for 1 or 10 items as long as they fit into the printing space.

**Con:** nasty production and post processing steps involving chemicals & smell.

Production process is more involved and expensive compared to FDM.

**Cost for 1 piece:** 1 - 2 digit dollars plus CAD cost.

**SLS** - Selective Laser Sintering

Powder based, laser melting.

Most commonly using PA (Nylon).

Excellent choice for automotive purposes.

**Pros:** printing speeds scale similar to SLA.

Very high thermal and physical stability.

**Cons:** printers too expensive for consumer (starting at ca. 10k USD/EUR)

Very involved post processing (sand blasting).

Expensive raw materials hence rather high production costs.

**Cost for 1 piece:** 2-3 digit dollars plus CAD cost.

**20th century method:**

**Injection moulding**

Bulk of the cost is for tools/mould.

Generation of digital data more or less the same effort as above

Very quick in production, very cheap if producing large quantities.

**Cost for 1st piece:** 4 digit dollars depending on mould plus CAD work.

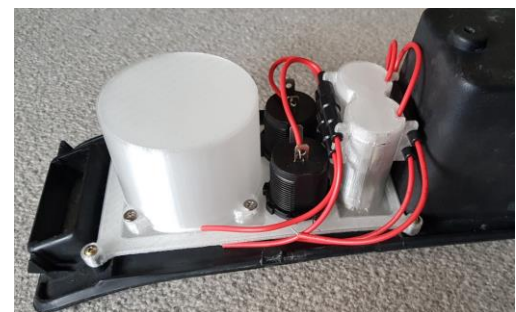
**NBA (Never Before Available) and**

**NLNL (No Longer No Longer Available)**

**Can/bottle holder - 4x USB port functionality**

ashtray drop in replacement to provide space for 1 can/ bottle plus 12V plug plus 4x USB plug. Essentially a modernization of the car removing the ashtray (w. lid) assembly and replacing it with a custom designed unit.

Pictures of prototypes:

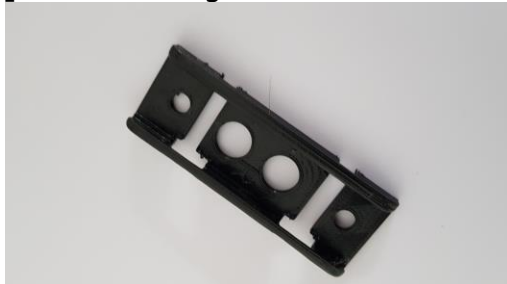






Still in development but prototype running and being used in our daily driver.

**Light Strip Device (LSD) - tab protector/strengthenener/fix**

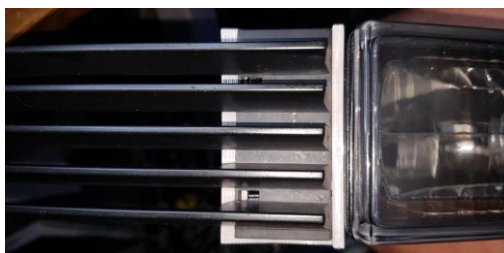


Every 8er owner has come across the regular breaking of tabs. Sometimes they can be epoxied back on only to be found broken on the next occasion. Eventually the owner is forced to resort to MacGyver methods to keep it in place - or replace the assy.



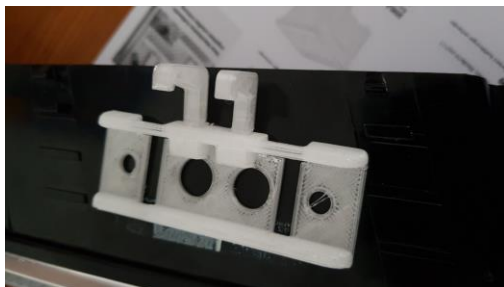
The price tag of the light strips has reached ca. 350 EUR (400 USD ish) and quite a few must get replaced solely due to the fact that they cannot be reattached properly anymore.

With the adapter plate designed on very tight specs it is not only possible to securely fasten a light strip even if **both** tabs are broken and gone. If the tabs are still available (they tend not to get lost since they are held in place by the screws) one can reattach them tightly without gluing them in place! This means that even the black plastic grille in front of the light strip can be reattached and (at least with one tab broken off (tested)) will stay in place.



Invisible when printed in black!

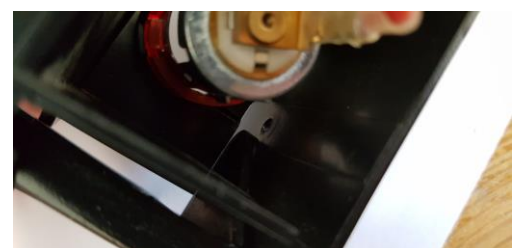
An ongoing, near finished modification to the LSD adds two hooks bending around by 90 degrees which will eventually allow for the continuous use of air inlet grilles that have lost their attachment tabs on the side of the light strip. These grilles are now also getting close to 40 EUR a piece and hence it'd be advantageous if these'd not need to be thrown out due to a broken tab.



The LSD will not only cover up damage that has arisen but also distribute the load & strain during normal use. It can hence be installed as a safeguard in cars where all tabs are still in place and will hopefully prevent the breaking of tabs for the times to come.

**Ashtray hinges**

An all too common sight is the ashtray lid hanging to one side (normally the rear facing side). These ashtray lids have lost their function as a result of a hinge going missing.







### Emergency opening string/button for the fuel filler flap

NLA since a couple of years. Not essential for car operation but important for the wellbeing of oneself

The hinge itself is no more than a tiny plastic pin that is installed through two holes next to the cigarette lighter. Unfortunately, BMW's design is not entirely bullet proof - the pin comes loose, threads out of the hole and eventually falls down into the center console netherworld beyond rescue. It'd be a rather easy fix if one'd be able to purchase the small pin, only it was never available for sale.

The fix is now available:



Fits exactly as BMW part did. Slightly strengthened holder for nylon strap. Will require very little preparation to be painted - is near invisible when installed anyway. P/N: 5112 2256195



### "CSi wings" next to front number plate holder.

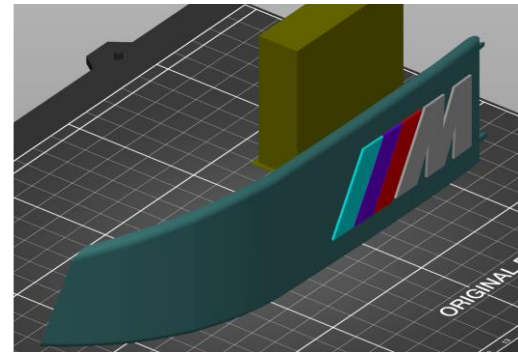


Work in progress - color variations possible. BMW P/N: 5125 8118648

Work in progress. Still available ex BMW but expensive (>100 EUR each side) P/N: 5111 2253001 and 002. Individual embellishment possible!

### Tow hook cover for the CSi diffusor

NLA since at least 2014. Rather difficult geometry.



### OBD plug fastener (engine compartment round 20 pin diagnostic plug).

These fasteners have never been available as spare part, only in conjunction with the OBD screw cap and with a price tag of roughly 30 EUR which appears quite steep for a simple thing.







Also in use in other contemporary BMW cars and broken to pieces in almost all cars I have seen in 15 years.  
P/N lid: 1252 1724690;

Individualization possible on a very limited scale:



**Plastic cap for headlight loom (small cap next to air filter housing)**

These tend to get lost and have never been listed in the parts catalogue. The part numbers are printed inside though and these were actually available for purchase.



The smaller of the two (P/N ending in 901) has become NLA some time ago and this was a rather challenging project right from the start due to a complex geometry. The material needs to be sturdy and flexible along with having a high thermal stability (engine compartment).

The CAD model is ready and the printed part has been shown to fit, only the temperatures in the engine compartment make it rather difficult. It'd be best to SLS print this in Polyamide (Nylon) preferably glass fiber reinforced similar to OEM (PA-GF15).

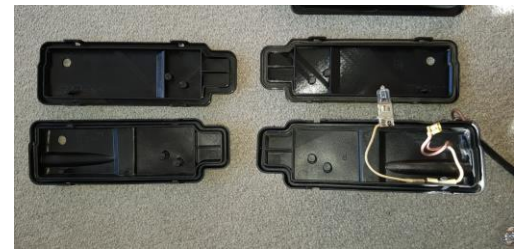


Thomas (Engl) has come up with a rather ingenious alternative. He is using a spacer to allow the fitment of the larger (and still available) plug instead of the smaller 901 plug.

To be continued ... work in progress.

**Rear cover plate of high beam in light strip**

These covers tend to harden over the years and upon prying them open a fair few have lost their locking tabs making it near impossible to obtain a water tight seal upon reinstallation. Unfortunately, these lids can only be purchased with the wiring loom attached which again makes it a rather expensive failure at 240 EUR a piece (close to 300 USD).



Reverse design (top parts) reduced to basic functionality.

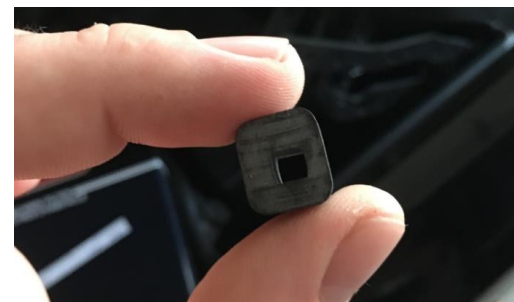


Allows reuse of the gasket and comes with 4 brand new locking tabs. Testing in progress - fitment to NA cars to be determined (no sample available)

**Cubic rubber blocks for the engine compartment hinge**

Test mule for a high flex filament (hard rubber), Shore hardness 98A. These rubber bits tend to wear off and/or get lost. Their sole purpose is the fine (height) adjustment of the rear of the bonnet.

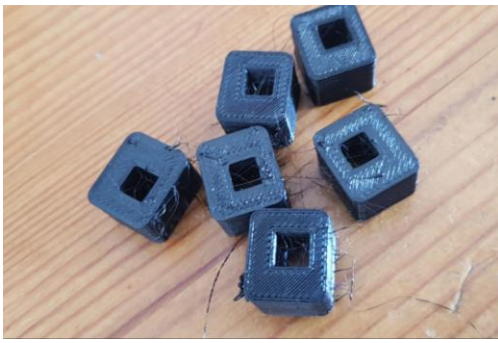
Not NLA, available as P/N: 5123 8123298



Pictures taken from Bimmerforums posting by killian665, 2018-02-24

Once NLA can be supplied as FDM print:





3D printing methods make many things available that otherwise would have been unattainable or economically unfeasible.

This does not necessarily mean that the parts can be had cheaply since the largest part of the redesign is in the generation of data that can be sent to a manufacturing machine (3D printer, whatever method).

Car manufacturers will not disclose the CAD data necessary to reproduce NLA items hence one usually has to reverse engineer from existing parts. This can lead to an enormous overhead in construction time even for comparatively small / cheap items.

As a result, the parts price not only contains the printing cost (material, time, energy, printer nannying) but also a distribution of the developmental costs over a proposed (hoped for) number of possible sales.



Individual lettering can be requested (within size limits) e.g. Individual, Platinum, CSi, ///M. In theory one can also use the last 7 of the VIN - adds a nice personal touch and is not too obvious. Left and right covers are nonsymmetrical. Labeling (reading) direction needs to be reversed left vs right.

**Spacer/cover for the Individual / extended real wood veneer (in the US for CSi only)**

These tiny plastic spacers cover a rather unsightly gap between the two wood veneer parts under the dashboard.



Factory installed covers have started to fall apart without a spare part in sight.



Caveat: one has to be extremely careful when removing the carriers from the car. The supporting material is "foam" based and prone to crack & break if handled the wrong way. This should only be attempted by owners with experience in the removal of e.g. A & C column covers. Multicolor prints in development!



Too expensive? Not quite. All items are effectively made from Unobtanium.

Printing itself has its own challenges e.g. due to the anisotropic nature of stability in FDM (Fused Deposition Modeling) printed parts and differences between desired and achievable physical properties as a result of the selected material. This part did last a second and broke apart just by looking at it:



These hooks are very hard to break. Think Lego.

**Miscellaneous & Outlook**





"esoteric" printing materials service providers exist. They all need data to work with though.

can be overcome, methodical limits need to be taken into account. Others have printed entire cars and today even houses, so let's assume that the sky is no limit.

E31 owners will certainly come up with ideas of what parts might be redesigned and reproduced. Depending on demand and feasibility such NLA items may be of interest and might become NLNLA items.



LSEV, 3D printed car by Polymaker



ICON, 3D printed house, Texas

Of course the methods are not restricted to 8-series parts let alone plastics. Today one can print more or less everything be it gold, steel, pasta or ground beef. For most of these

I am all ears to whatever proposals may come up. Size and material restrictions

Reinhard Wolf, June 2019



*JR Wappel's Dinan 850 at the Greenwich Concours. This Glacier Blue Dinan 850 was one of 50 produced. Originally owned by former PGA Pro Golfer Mark Calcavecchia. He commissioned the Dinan conversion which consisted of the Stage II Twin Turbo package, Stage III Performance Suspension Package, and Wheel and Tire package at a conversion cost of over \$25,000 in the early 1990's.*



# E31 The BMW 8 Series is Spiking In Value Right Now

By Eric Weiner  
Courtesy of Hagerty.com



The E30 M3 might still be the most popular modern BMW still climbing in value, but there's another, less-boxy Bimmer whose value has been quietly climbing—the 8 Series. Beautifully proportioned, massively over engineered, and boasting twelve (and later eight) cylinders of German might, BMW's top-of-the-line luxury grand touring coupe is finally starting to catch the eye of collectors. Many an 8 Series sat languishing untouched under stacks of wallet-evacuating repair bills for years, but rising prices might turn the tide and encourage more and more owners to get their vehicles into driving shape.



BMW launched its q-ship 8-Series coupe in 1990 with the bow of the 850i. Bearing the internal designation of E31, the stylish 2-door coupe initially sported a V-12 engine and was designed as a state-of-the-art luxury grand touring car. Later iterations included the 840Ci (powered by a V-8 engine), the 850Ci, and ultimately the range-topping 850CSi. For a long while the BMW 8-Series suffered from years of deferred maintenance due to high repair expenses, and values languished. Lately, however, the car has become appreciated for its refined driving characteristics, its overbuilt nature, and a resurgence in interest in BMWs from the 1980s and 1990s.

The BMW 8 Series were built in four versions during its production run between 1990 and 1999. First to launch was the V-12-powered 850i, with the V-8-powered 840Ci following for the 1992 model year. Also for 1992, BMW launched its sportiest, highest-performing 8 Series in the 850CSi, while the standard V-12 8 Series was rebranded as the 850Ci for 1993.



BMW 1989 BMW 850i

All versions of the BMW 8 Series—internally coded as the E31—experienced a price surge over the past year. For the highly-prized CSi, average quote values increased from \$50,000 in July 2017 to nearly \$90,000 as of July 2018. Concours-condition (#1) examples went from \$75,000 to \$100,000 in that same span, while Good-condition (#3) cars saw their average values go from \$42,000 to \$55,000. The 850i, 850Ci, and 840Ci show similar, but less dramatic growth curves, with average values for the V-12 models hovering at around \$14,000 compared to \$50,000 Concours examples. The 840Ci is slightly more expensive for the average car at about \$16,000, but the top end for Concours-quality cars is just \$37,000.

Our insurance quote activity—also a strong indicator of overall buyer interest—shows that the market for the BMW 8 Series is abuzz. New quotes are

up 20 percent compared to a year ago, and up 104 percent since 2015, with an average age of 55 for those requesting quotes.

That age demographic makes sense, given that this was an extremely expensive car when new. The 30-year-old in 1993 probably only dreamed of owning an 8-series when it was new. Those fans can finally afford to buy the car now and, considering the necessary costs to bring neglected examples to roadworthy condition, afford the maintenance costs as well.



With the new 2019 BMW 8 Series set to debut with a twin-turbo V-8 making 523 hp, the defunct model is finally making a comeback. It'll be BMW's range-topping grand tourer (as before), sharing the halo-car spotlight only with the hybrid-electric i8, which is getting a bit long in the tooth despite still looking like it's from 2047.

A revival model doesn't always mean a value boost for the original, but for now the E31 BMW 8 Series is having a moment. If we're lucky, we'll start seeing more and more of them on the street and at events.

## 1994 BMW 850CSi

### Current Values

**\$161,000** ----- #1 Concours

Condition #1 vehicles are the best in the world. The visual image is of the best vehicle, in the right colors, driving onto the lawn at the finest concours. Perfectly clean, the vehicle has been groomed down to the tire treads. Painted and chromed surfaces are mirror-like. Dust and dirt are banned, and materials used are correct and superbly fitted. The one word description for #1 vehicles is "concours."

**\$102,000** ..... #2 Excellent

**\$78,300** ————— #3 Good

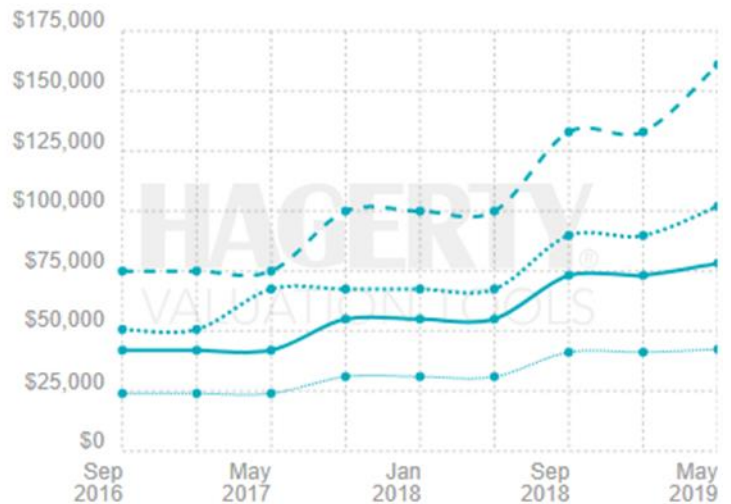
**\$42,400** ..... #4 Fair

3 YEAR

5 YEAR

ALL

### Value Change Over Time



## 1995 BMW 850Ci

### Current Values

**\$39,600** ----- #1 Concours

Condition #1 vehicles are the best in the world. The visual image is of the best vehicle, in the right colors, driving onto the lawn at the finest concours. Perfectly clean, the vehicle has been groomed down to the tire treads. Painted and chromed surfaces are mirror-like. Dust and dirt are banned, and materials used are correct and superbly fitted. The one word description for #1 vehicles is "concours."

**\$30,000** ..... #2 Excellent

**\$17,100** ————— #3 Good

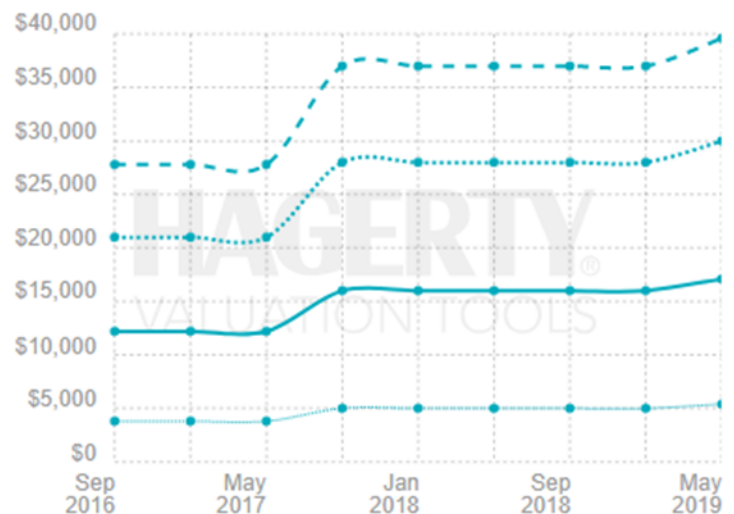
**\$5,400** ..... #4 Fair

3 YEAR

5 YEAR

ALL

### Value Change Over Time





# 1996 BMW 840Ci

## Current Values

**\$39,600** ----- #1 Concours

Condition #1 vehicles are the best in the world. The visual image is of the best vehicle, in the right colors, driving onto the lawn at the finest concours. Perfectly clean, the vehicle has been groomed down to the tire treads. Painted and chromed surfaces are mirror-like. Dust and dirt are banned, and materials used are correct and superbly fitted. The one word description for #1 vehicles is "concours."

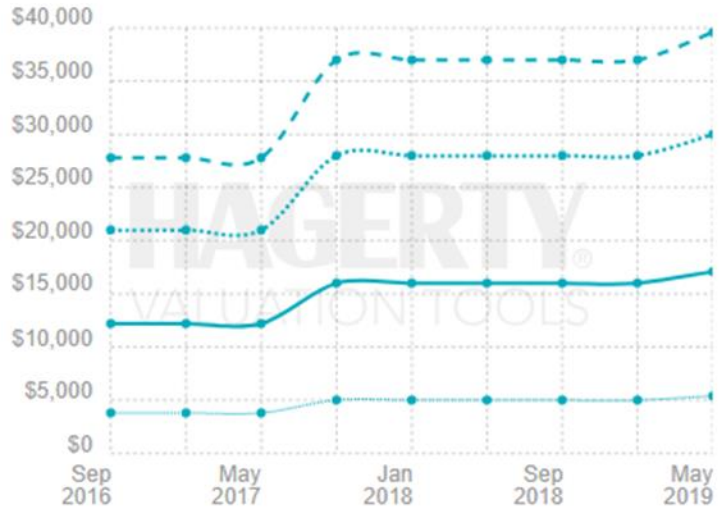
**\$30,000** ..... #2 Excellent

**\$17,100** ————— #3 Good

**\$5,400** ..... #4 Fair

3 YEAR 5 YEAR ALL

### Value Change Over Time



# 1991 BMW 850i

## Current Values

**\$79,800** ----- #1 Concours

Condition #1 vehicles are the best in the world. The visual image is of the best vehicle, in the right colors, driving onto the lawn at the finest concours. Perfectly clean, the vehicle has been groomed down to the tire treads. Painted and chromed surfaces are mirror-like. Dust and dirt are banned, and materials used are correct and superbly fitted. The one word description for #1 vehicles is "concours."

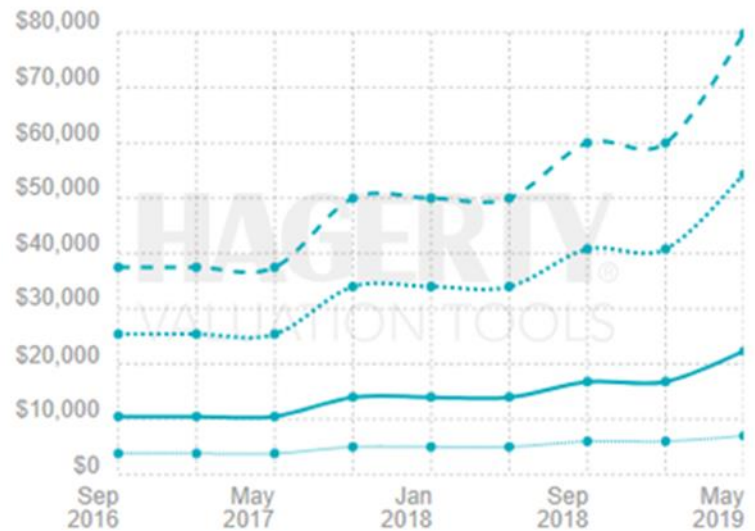
**\$54,300** ..... #2 Excellent

**\$22,300** ————— #3 Good

**\$7,000** ..... #4 Fair

3 YEAR 5 YEAR ALL

### Value Change Over Time



# E31 Product Review

If you have a product you would like to recommend to fellow E31 owners, please write up your recommendations, and send them to: [newsletter@bmwccae31.com](mailto:newsletter@bmwccae31.com)

## E31 Leatherique and Colourlock Restoration Products

By Gary Corcoran  
Vice President, SoCalEights

My First Time Experience with Leatherique and Colourlock Restoration Products. Like many car enthusiasts, I enjoy working on my own cars. It's that DIY mentality that challenges us when we break things in the process, yet rewards us with the satisfaction of fixing things ourselves and learning new skills. With the high cost of having seats

professionally recovered, I decided to try repairing the torn and weathered seats in my '91 6-speed using Leatherique ([www.leatherique.com](http://www.leatherique.com)). More recently, I used Colourlock ([www.colourlock.com](http://www.colourlock.com)) to repair and re-dye the seats in my '97 840, and to touch up some light wear areas in several other cars. Their web sites provide lots

of information, videos, tutorials, and customer testimonials; so this is simply a summary of my experience as a first-time user.

The steps to repair and re-dye are similar, but the products and their application are different. Here are the products I used:

Steps	Leatherique	Colourlock
Clean and Condition	Rejuvenator Oil and Prestine Clean	Mild & Strong Leather Cleaner, and Leather Protector
Hole/Tear Repair	Instructions how to tuck and glue a leather patch	Backlining Cloth and Leather Glue
Crack Repair/Filler	Crack Filler (white color)	Fluid Leather Filler and GLD Pen
Dye Preparation	Prepping Agent	Leather Cleaning Spirit (cannot ship to U.S)
Colored Dye	Leatherique Dye	Leather Fresh Dye

My initial research led me to purchase Leatherique products to repair and re-dye the very dirty, hard, dry, cracked, and torn Parchment seats in my '91 6-speed project. Initially, I used a variety of store-bought products to clean as much surface dirt as possible before applying their Rejuvenator Oil. The process involves rubbing and deep massaging the oil into the seats by hand, and parking the car in the sun with the windows up for a day or more to create a steam bath. It is supposed to lift the dirt and perspiration to the surface and then wiped off using their Prestine Clean solution and a clean cloth. I did this many times. Although the leather in our early cars is much firmer than later cars, it still felt like cardboard. I finally got up the nerve to prepare for dyeing (the leather, not me). With Leatherique, you apply the Prepping Agent with 400-600 grit wet/dry sandpaper to remove the old dye per their instructions. Yikes! Sandpaper on leather? This thin pink fluid is very interesting. When applied with a cloth, it does nothing. However; when applied by wet sanding, the old dye magically melts into slurry and removes easily with lots of paper

towels. To my surprise, the leather now seemed much softer as well.



I then proceeded to fill two inch-long openings caused by cracks in the dry leather -- one in the driver's bolster and the other in the passenger thigh support. I tucked a piece of leather inside the gaps, rough side up, and glued in place according to their instructions. If done again, I would use a thin piece of vinyl because the thickness of the leather patch slightly raised the seat's leather around the parameter of the patch. Next, I filled the openings with their Crack Filler, which looks like white glue, repeating the process

several times to build it up to surface level because the filler settles as it dries. It's water-soluble, so I used my best DIY drywall patch skills to level and texture the patch.

Leatherique recommends applying the dye with either an artist-quality acrylic brush, or an airbrush. I tested using a brush on the rear center armrest. I could not get it to dry without brush marks, so I decided to remove all the seats and borrowed an airbrush from Fern, which he had used with Leatherique in his famous wide-body 840. Spraying the seats filled dry cracks, created a uniform finish, and looked great!



Paint booth





*Old dye removal*



*yuck*



*Finished result using Leatherique*

In summary, I like the Rejuvenator Oil and the Prestine Clean for deep cleaning and softening leather. I've used it on softer leather in later cars and it works well. The crack filler "cracked" around the edges after usage. The finished product looks great but dried and flaked off in a few small areas after several months. I've been told by others

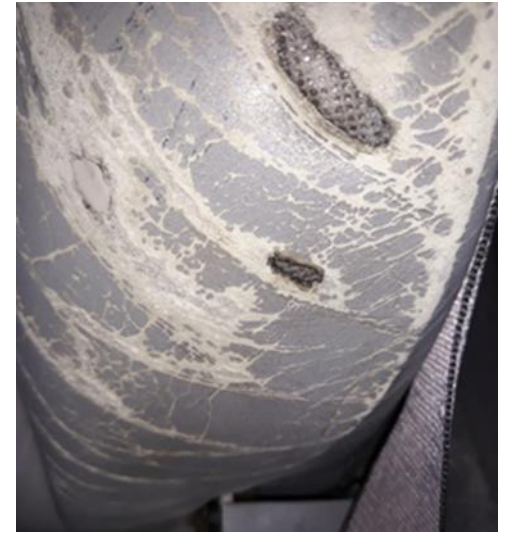
they've had the same experience. Could be my preparation and application technique, but I felt I was spray painting a water-based product on top of the leather surface. Wait! That's exactly what it is.



My current project car is a '97 840Ci with Silbergrau (Silver-Gray) leather. As you can see in the photo, the driver seat bolster is severely damaged. Not satisfied with my Leatherique repair and wanting to try a product I could "rub" into the leather like shoe polish, I decided to try Colourlock. Although I had used the Leatherique Rejuvenator Oil and Prestine Clean many times on the cardboard leather in my 6-speed, I still had a lot left in the 32 oz. bottles, so I drenched all the seats in oil and parked in the sun for about a week before using Prestine Clean. I then used the foamy Colourlock Mild and Strong Leather Cleaners with a soft scrub brush to clean the natural creases. I've now used it on other cars and it really works well as a cleaner followed by their Leather Protector which provides UV protection.

First, I glued the supplied thin mesh Backlining Cloth material tucked into the openings using Colourlock Leather Glue. Unlike the Leatherique Crack Filler, the Colourlock Fluid Leather can be ordered in the matching color, sets up fairly quickly, and is not water soluble. It does settle and sink requiring multiple applications to build up to

surface level. I then spread Fluid Leather over the entire worn areas using a thin putty knife followed by smoothing the surface with the GLD pen. It's filled with some type of solvent in a container similar to a large felt pen with a wide flat tip.



*Backing Cloth Glued in Place*



*Holes filled with Fluid Leather*

The Colourlock method to prepare the cleaned leather for dyeing requires the surface to be degreased using their Leather Cleaning Spirit, but they are not allowed to ship it to the U.S. They advised me to use any solvent-based degreaser. I used Gunk engine degreaser on a microfiber towel to wipe the surface, followed by a mild soapy water solution, and finally wiped with plain water. The Leather Fresh Dye is applied by blotting with a foam sponge.

It took several coats to blend the color evenly as I had to dye the entire front seats because the color didn't match perfectly. They had never made BMW

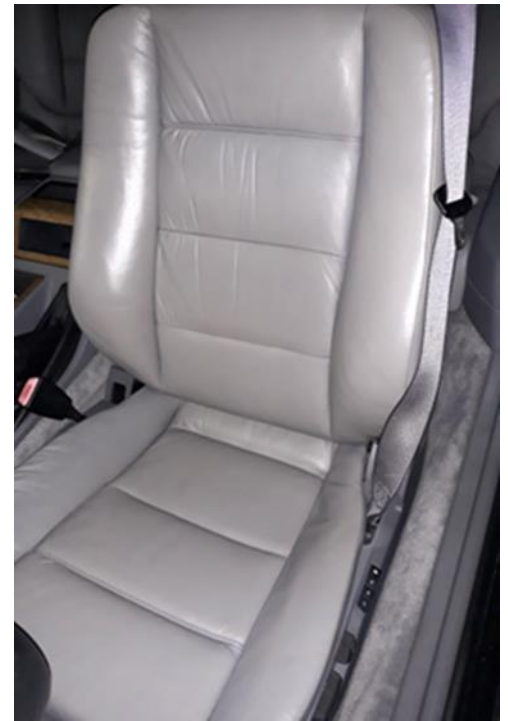


*Completed repair*

Silbergrau before so the sample they received from Germany that must have been a few shades lighter in color.

However, I really like the results and this application method vs. an airbrush. The Leather Fresh Dye also seems to permeate the leather much more so than Leatherique.

I also ordered Leather Fresh Dye in Parchment and Black and touched up mildly worn areas on several friends' cars. I simply cleaned the scuffed areas and dabbed on the dye in just a few minutes. It blended well and matched perfectly with the surrounding leather. Both companies provided excellent customer service and helped me order the correct products. I like the Rejuvenator Oil and Prestine Clean from Leatherique for reviving old dry leather, but I really like the Colourlock products for repairs and dyeing the leather. Visit their websites to learn more and decide for yourself. Compared with the cost of recovering seats in new leather, I highly recommend this DIY project. Live and let dye!



*Finished result with Leather Fresh Dye*



*2018 E31 Chapter Photo Contest Entry*



By Giuliano D'ammassa

The splendid setting of the province of Pesaro Urbino magnificently hosted the meeting of the BMW E31 Italy CLUB on May 17 – 19, 2019. The meeting was organized to celebrate the thirtieth anniversary of the launch of the legendary series 8, a high-end car, the undisputed protagonist of the 90s that still today arouses admiration, not only for motor enthusiasts, but also for those who are simply struck by the uniqueness of the line, even more amazing if it is compared to the car fleet circulating in the years of its production.



*E31's lined up next to the Wall in Gradara*

The cars, 20 of which were from abroad (Germany and Switzerland) met on the Pesaro seafront on Friday evening and then left on Saturday morning for Gradara, elected "borough of the boroughs 2018". After arrival, the magnificent row of E31's were placed in static display below the walls, and gave life to a real fusion between medieval architecture and modern design.



*8's in a row in Gradara, Italy*



After the welcome lunch of excellent local cuisine, the caravan followed the same route just followed by the Tour of Italy, returned to Pesaro. With the hotel garage reserved exclusively for members of the meeting, friends shared experiences, opinions were exchanged, and exchanged advice on car management. To point out, as an element of absolute excellence, the presence of a computerized diagnostic

apparatus was available to the cars thanks to the great skills and availability of the Italian Club Executives. Afterwards, a refined cocktail party enlivened the evening of the guests.



*8er's celebrate the 30th Anniversary in Urbino, Italy*



*Italian 8's take a break while driving the Tour of Italy*



*BMW E31 Club Italy celebrates the 30th Anniversary of the E31*





*Antonio and Anabel's famous Dog. It has been in more places than the famous "Where's Waldo"!*

On Sunday mornings the cars were driven to the center of Urbino, a city rich in history and culture, in whose Piazza Rinascimento the BMWs posed in static



*On display in Urbino, Italy*

display, painting, with their different colors, a real rainbow that was a good contrast to the leaden sky and the rain that accompanied the entire festival.



*Antonio, Eligio and Gianluca*

The attendees had the opportunity to visit the Palazzo Ducale and the Casa di Raffaello, then head to the farewell lunch, where the main wish was the desire to have a new opportunity to meet again with their passion for 4 wheels.



*8 Series celebrating at the Welt and the BMW Factory in Munich*



# E31 Wheels & Weißwürschthe at BMW Classic in Munich, Germany

By Stefan Tietze



On Saturday 4th of May 2019, BMW-Classic started its 2019 event "Wheels & Weißwürschthe" at the Headquarter in Munich, Germany. A monthly event that was started last year with big success, so BMW decided to continue in 2019.

The weather was quite nice and I went there to watch cars, meet friends and of course having some Weißwürschthe, Pretzels and a beer.



*Mercedes foreigner who snuck in*



*No replacement for displacement! V12 powered Z3*



*M1 Pro Car*



*Outside BMW Classic*

parts of it new to reopen in 2016 as the new home of BMW-Classic formally known as "BMW-Mobile-Tradition".



*3.0 CSL Batmobile*

The event is open to all owners of historical vehicles. No matter if car or bike. Moreover, no matter if it is a BMW or not. So - the mixture of cars is mostly quite interesting. This time the storage was open for sightseeing as well. The location is quite interesting as it's the original building (parts of it) from BMW where they started in 1916 to build motorcycles. A few years later the area has been sold to "Knorr Bremse", which used it until 2012. Since then BMW refurbished the buildings and build



*CSL Race Car*

At the area now exists a garage, shop, coffee shop and a car storage, where some of the cars of the BMW collection are stored. In addition, there are cars of customers parked while they are waiting for repair or service.



# E31 The E31 Chapter Apparel Store

BMWCCA E31 Chapter is proud to announce the E31 Chapter Swag Apparel Store. We have teamed up with the team at Queensboro Apparel so members may purchase E31 Apparel. Ordering is easy. Simply choose the item you want in what color you wish and place the order. The great people at Queensboro will fill the order, and ship it to you. It is that easy!



Also check out the special 30th Anniversary T-Shirt page. This shirt has been designed in association with E31 Clubs worldwide to celebrate the 30th Anniversary of the E31 8 series.



Be sure to visit our Chapter Apparel Website:  
<https://bmwccae31.qbstores.com>  
for chapter apparel.

# <https://bmwccae31.qbstores.com>



# E31 30th Anniversary Worldwide T-shirt Ordering Information

We are pleased that the new 30th Anniversary Worldwide T-shirt is available to order in both long and short sleeve.

Here is the price:

Short Sleeve \$17.95(XXL will be an additional \$2.00)

Long Sleeve \$24.95(XXL will be an additional \$2.00)

Prices will be plus shipping and handling direct from the manufacturer.

The shirt is available from the E31 Chapter Apparel Website. This has been made in conjunction with 8er.org, and lists all the following BMW clubs on the shirt: Internationale 8er Gemeinschaft BMW & ALPINA E31 Club, 8Coupe.com, BMW Club 8 Serie France, BMWCCA E31 Chapter, Club E31 Nederland, SoCalEights, BC 8's, Club

E31 Sweden, 8er.org, ClubE31 Italy, Club BMW Serie 8 Spain, 8-Fest.org, Club E31 Norway, AZ 8's, SouthEast 8's, Australian 8's, E31Club Russia, ClubE31Worldwide Owner's Group

Check out the BMWCCA E31 Website for ordering information: <https://bmwccae31.qbstores.com>

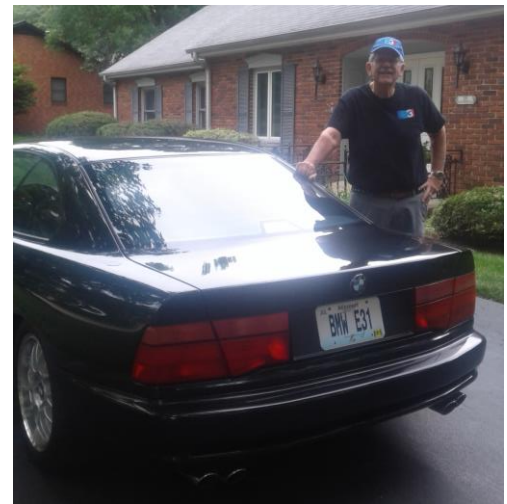
## 30th Anniversary Shirts around the World



Stefan in his 30th Anniversary shirt outside BMW Classic's headquarters in Munich, Germany



Antonio in Pesaro, Italy, at the Italian ClubE31 30th Anniversary Celebration



John Noce - Creve Coeur, Missouri



Stefan Tietze - Munich, Germany



Henry Christoff - Vancouver, Canada



Martin and Wuffer - Vancouver, Canada

**BMWCCA E31.com**  
The Official website of the BMWCCA E31 Chapter

**8Coupe.com**  
BMW 8 Series Registry

Article and pictures by Rob Siegal

**Editor's Note: Rob Siegal has been writing the column *The Hack Mechanic™* for BMW CCA Roundel magazine for 30 years. His most recent book, *Just Needs a Recharge: The Hack Mechanic™ Guide to Vintage Air Conditioning*, is available on Amazon, as are his previous books.**

Bleeding the brakes stinks (literally), but it must be done

There were a lot of excellent reader comments about my piece a couple of weeks back on why you shouldn't cold-start a long dead car. I completely agree with everyone who said that, ideally, you should pull the spark plugs and oil the cylinders before trying to rotate the engine, and that the more you oil and the longer you wait before spinning the engine with the starter, the better.

In my defense, I listed "make sure the engine is free to rotate" first because I was blurring the line between looking at a long-dead car as a potential purchase versus dealing with one you already own. That is, if you're thinking about buying a long-dormant car and want to assess its status, you don't necessarily have the time or the access to oil it and rotate the engine in 12 degree increments for 30 days. But the more valuable the car and its engine are, and the more you care about them, absolutely, oil before rotating. And now, on to the matter at hand: Bleeding brakes.

Let me be clear about this from the get-go: I don't like bleeding brakes. I hate the feel and the smell of brake fluid. When I bought my precious 1973 BMW 3.0CSi 33 years ago, the car had been sitting dormant, the clutch master cylinder had leaked inside the car and soaked the carpet, and the smell of brake fluid (combined with the rodent urine) was enough to gag a maggot. Whenever I smell brake fluid, it takes



me back to that, and not in a soft-focus Pepperridge Farm way.

But I bleed brakes—a lot—because it has to be done. Any time you open a brake system to replace a hydraulic component, such as caliper or a flexible rubber hose, you introduce air into the brake lines, and that air has to be bled out by running brake fluid through the system, which carries any air trapped in the lines along with it.

If you're never done it, bleeding brakes is, in theory, a very simple operation. At each wheel, there's a bleed valve. On disc brakes, they're on the calipers. On vintage cars with multi-piston calipers, sometimes each caliper has several bleed valves that you need to bleed in a certain order. On drum brakes, the bleed valves are on the wheel cylinders. In either case, you go to one wheel at a time in the bleeding order prescribed for your car. Generally, this order is most distant from the master cylinder to least distant, which on most cars is right rear, left rear, right front, left front, but you should check service

information for your car to be certain. (My Lotus Europa specifies left rear, right rear, left front, right front. Bloody Brits.)

Generally, you jack up the front or back of the car, set it on jack stands, and pull the wheels off to access the bleed valves. You press a rubber hose over the little nipple at the end of the bleed valve and stick the other end of the hose into a receptacle to catch the brake fluid. You use a small wrench to open the bleed valve, run brake fluid through the system to bleed it, and then bleed the brakes at the other jacked-up wheel. You let the car down, jack up the other end, and bleed there. You need to make sure that, while you're doing all this, the brake fluid reservoir doesn't run dry, because if it does, you'll have waaaaaay more air in the line than you had before. And you need to be very careful about getting brake fluid on paint. If you spill or splash any, wash it off with soapy water, stat.

That's pretty much it, but the key phrase is "run brake fluid through the system." There are several different ways of doing this. They're all variants of either pushing fluid (pressurizing the system) or pulling fluid (applying a vacuum). In addition, there's the Zen-like approach of letting gravity do its thing.

If you're using one of the pushing methods, if your catch receptacle is clear, and you submerge the end of the hose in brake fluid, you can watch for a



blast of bubbles followed by no bubbles as the air in the line for that wheel is purged. For the pulling methods, you don't get the visual confirmation of air being passed, so instead, you can count for a fixed number of seconds, or pump a fixed number of times, or do it until a fixed amount of fluid has run through.

The following is not intended to be an exhaustive list of every bleeding method and device, but it's a pretty good overview. Photos are of actual bleeding tools in my garage.

### Pressure Method #1: The Old Tried-And-True Spousal Method



In the spousal method, a lot of time is spent opening and closing the bleed valve while your true love pumps the brake pedal.

You're not really the spouse or the best friend of a car person until you've been roped into helping them bleed brakes. In this tried-and-true method, you ask your ever-patient spouse/friend to sit in the driver's seat while you move from wheel to wheel. You open the bleed valve, say "down," and he/she depresses the brake pedal. It's usually advised not to push it all the way to the floor, as that may send the piston in the master cylinder into regions it hasn't traversed since it was assembled and may cause the seals to leak. When spouse/friend says, "It's down," you close the valve, reply "And... up," and they let up on the pedal. You repeat this 20 or so times per wheel. Once you figure out about how many down-up cycles it takes to drain, say, 75 percent of the reservoir, you can then do that many pumps, stop if it appears that the bubbles have stopped, refill the reservoir, and move onto the next wheel.

**Advantages:** No additional equipment is required beyond a wrench for the bleed valve, a rubber hose, and a catch container.

**Disadvantages:** It requires a second person. That second person is usually your spouse. There may be a fixed number of times she/he consents to being summoned out to the cold greasy realm of your garage. Plus, in certain braking systems, pumping may not work well because air bubbles can get sucked back up the line when the pedal is retracted.

### Pressure Method #2: The Big Pressure Bleeder/Reservoir



My Motive power bleeder sees a lot of use. Note the quick-release connection for changing caps.

**Editor's Note:** *I have personally used my Motive Power Bleeder for over 20 years with very good results. Just don't forget to not pump it up too much!*

Several companies make a power-brake bleeder that screws onto the reservoir in place of its cap and pressurizes it with air. The most convenient-to-use ones also have their own brake fluid reservoir, thereby making it so you can fill them with several quarts of brake fluid and not have to worry about refilling the reservoir at the master cylinder after each wheel is bled. The best known of these is probably the one from Motive Products. It has a form factor that looks a bit like a garden sprayer, a big plastic jug with a big T-handled push-down pump. Most folks pump them up to 10–15 psi. A flexible tube comes off the tank and has a quick-release fitting that snaps onto a reservoir cap that fits your

reservoir. Different caps are available for different makes.

**Advantages:** They provide one-person operation and let you run a lot of brake fluid through the system very quickly and efficiently. Mine sees a lot of use. The only reason I'd use something else is if I don't have a reservoir cap that fits.

**Disadvantages:** They're a little pricey. On Amazon, the cost of a "black label" Motive with a nice knurled aluminum cap for my vintage BMWs is \$71. Plus, you may need several different caps if you own vintage German, American, and British cars, and each additional cap with a quick-release adapter is about \$25. If your cap is not available (as turned out to be the case with my Lotus), Motive will sell you a "make your own" kit that you can use with a spare cap. Another disadvantage, as I found out after owning the Motive for 10 years, is that if the tubing splits from age while the tank is pumped up to 15 psi, it'll dump a lot of brake fluid all over the garage floor very quickly.

### Pressure Method #3: The Small Pressure Bleeder



My 30-year-old Gunson's Eezi-bleed. Once in a while, I break it out.

In addition to the Motive, for over 30 years I've owned a Gunson Eezi-bleed. This venerable product uses air from a tire (usually the left front, as that's the one that's normally closest to the reservoir) to pressurize the brake reservoir.

**Advantages:** It's simple, moderately priced, provides one-person operation, comes with several different caps, and has no moving parts.

**Disadvantages:** It doesn't have an integral fluid reservoir, so you have to stop, unscrew it, and refill the reservoir on the master. Also, by connecting it to a tire, the pressure in the reservoir will be that of the tire, which initially is probably 30–40 psi, which is pretty high. Then the pressure drops off pretty quickly. In order to do all four wheels, you need to have an air compressor to re-inflate the tire. These days, I only use the Eezi-bleed if there's some problem with the Motive.

### **Vacuum Method #1: The Power Vacuum Bleeder**



This vacuum bleeder gets around the problem of fitment of the reservoir cap. Instead of pushing fluid through the system, it's possible to pull it through. There are a number of moderately-priced vacuum bleeders that connect directly to the bleed valve and run off an external air compressor, using the venturi effect to create a vacuum inside a coffee carafe-shaped container and sucking brake fluid into it.

**Advantages:** In addition to one-person operation, the main advantage is the fact that, because it's pulling not pushing, it doesn't need to screw onto the reservoir, so if you can't find a pusher solution with a compatible cap (as was the case with the Lotus), this is another option. And they're cheap; I bought this one on Amazon for \$25.

**Disadvantages:** As soon as you crack open the bleed valve, air tends to be pulled in through the threads; you may need to seal them up with grease or Teflon tape. Because of this, it doesn't move nearly as much fluid nearly as quickly as a pusher system, and you don't get that satisfying visual confirmation of "YES! THERE'S that

pocket of air!" There's also the downside of the lack of an integrated fluid reservoir. Some vacuum systems mitigate this by coming with a separate fluid bottle that you can suspend on top of the master cylinder's reservoir, but this is little different than simply refilling it yourself.

### **Vacuum Method #2: The Hand-Pumped Vacuum Bleeder**



Not much to recommend these hand-pumped units these days.

Before the advent of other methods such as power bleeders and power vacuums, there were small hand-held pistol-grip vacuum bleeders. These typically had a short hose with a fitting that would slide over or into the bleed nipple, and a small container to catch the evacuated fluid.

**Advantages:** These days, the advantages are few—one-person operation, low cost, and that's about all.

**Disadvantages:** Your hand gets tired from all the pumping, they have the same vacuum leak issues as the power vacuum bleeder, and because they're not drawing a constant vacuum, they can have difficulty extracting air—pulling it and fluid down the brake lines only to have it go back up when the hand pump is released.

### **Gravity Bleeding**

Some folks swear that no pumping, pushing, or pulling is necessary at all, and that you can simply let gravity have its way, open each bleed valve, be

patient, and wait for fluid to run out, bringing air along with it. While I have gravity-bled clutch slave cylinders, those are in the center of the car and thus tend to be a straighter, less-circuitous shot than the wheels at the four corners. Plus, on the Lotus I'm working on now, there are two hydraulic brake boosters that are essentially remote master/slave cylinders positioned high in the engine compartment between the master and the wheels, and you're not going to gravity-bleed through those. But, hey, if it works for you, great.

### **How Do You Know You're Done?**

When you've bled all four wheels, if the pedal feels firm, you're done. If it doesn't, you try it all again. If you're bleeding a car that had a hard pedal before you installed new components, there's no reason that it shouldn't return to having a hard pedal. But sometimes brakes are maddeningly difficult to bleed. Just when you're ready to beat the master cylinder to death with a brick, you bleed it one more time, and the pedal firms up. This need to bleed several times is part of the big advantage of a power bleeder like the Motive that has its own fluid reservoir. It also means that if you're smart and have the equipment, it's best to put the whole car in the air, either with four jack stands or a lift.

However, if you're resurrecting a long-dead car whose brakes are in unknown condition, it's quite possible that the pedal may never firm up because the bore and seals inside the master cylinder are shot. My rule of thumb is four attempts at bleeding. If I use my Motive power bleeder and, for each wheel, nearly drain the reservoir, that's a bit under a cup per wheel, or about half to one quart per attempt. Four attempts would be half a gallon to a gallon of brake fluid. That's more brake fluid than I want to encounter in a lifetime. If, after that, the pedal still doesn't firm up, call the time of death of the master cylinder and replace it... at which point, of course, you need to bleed it all again.

Did I mention how much I hate the smell and feel of brake fluid?



**By Roger Wray**  
**Editor, E31 News**

Summer is here, and boy what a busy spring. We had a great time at Sharkfest and “hangin” with all of our Big Coupe brothers. There were some really great E9’s Sharks, and 8’s there, but – as in most car meetings – we had the pleasure to meet some really great people. Kai and the gang have been doing Sharkfest for over 15 years, and really put on a great event. Marcia and I were honored to received the awards, especially with all the outstanding cars at the event.

If you get a chance to to visit the BMW Foundation, please stop by between now and the end of the year. The current Passion exhibit displays some of the best BMW examples to be found anywhere, and the E31 community has

an outstanding example on display – George and Sue Whiteley’s 850 CSI. While there, don’t forget to visit the Museum at the BMW Factory. Better yet – sign up for Oktoberfest, which will be held there in Spartansburg and take it all in.

For those of you on the west coast, be sure to sign up for the 30<sup>th</sup> Anniversary picnic hosed by SoCalEights. Contact information is listed on the content’s page at the front of the newsletter.

A special welcome to our two new board members, Brian Diffenbacher and Michael Barrett. We are lucky to have members step into leadership roles for the chapter, and I know they will bring new ideas to the board.

*Roger*

If you are planning a get together for 8’s, raise a glass for our 30<sup>th</sup> Birthday, take pictures, and send them to me so I can include them in the newsletter. Also, if you have purchased a 30<sup>th</sup> Anniversary T-shirt, take a picture of you and send it in. I will continue to compile photos of everyone celebrating the anniversary. If you have not yet purchased a special 30<sup>th</sup> Anniversary T-shirt, consider doing so, and join the E31 Community worldwide in showing our combined pride of this special year. Details are listed here in the newsletter.

And, always remember, it is the cars that bring us together, but it’s the people that make us who we are. Have a Great summer!



**MORE SMILES PER HOUR.**



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