



## 1983 BMW 528e Maintenance and Modifications History

### Summary as of May 18, 2009 by [rod528e@rstarmail.com](mailto:rod528e@rstarmail.com)

(Changes since the last history report was published are shown in **red** for easy identification)

A Summary of Modifications to the vehicle is at the end of this document. Modifications are fully documented on the web site at: <http://bmw.astec.org> Note - some maintenance tasks are also modification/update items, such as larger disc brake systems, stainless steel brake hoses and Bilstein HD shocks installed, instead of stock replacement parts.

Current Mileage - **133,654**

Purchase Date - April 1983

VA State Inspection due **May 2010**

Build Date - October 1982

Purchased From - Evergreen Motors, Inc., Frederick, MD

VA Emissions Inspection no longer required, vehicle is exempt and now licensed as an antique vehicle. (25 years old)

### General Condition

I am the original owner of this BMW. This vehicle has the original paint and interior, showing minimal wear and careful care and maintenance of all surfaces. Zymol products have been used exclusively, to wax and treat painted, vinyl and leather surfaces. Gummi Pledge is used on all weatherstrip seals. Electrical connections are maintained using CAIG Labs products, since new.

Normal operating maintenance involving oil changes, fluid changes, etc., is not addressed here, other than to indicate that RedLine and Castrol synthetic lubrication products are used well before recommended change intervals. The vehicle has never been damaged or exposed to severe weather conditions and the vehicle has been covered when parked inside and outside of its garage. It is normally parked in an insulated and heated/air conditioned garage. The engine, drivetrain and suspension have been carefully maintained, with receipts for all work and parts since I took delivery of this BMW, new, from the dealer. No major maintenance has ever been required on any items, beyond normal wear replacements and BMW service campaigns to address issues detected during E28 model production.

The car has won Judges Choice, First Place and Second Place in the past three years at the annual BMWCCA National Capital Chapter Deutsche Marque Concours d' Elegance event. The car is well known by a number of my BMW peers, who consider the car exceptional, given the quality of its original components condition, the extensive and documented preventive maintenance performed over the years and type of the modifications made to it.

## Maintenance History Summary of Service Records

All service records and parts receipts since I leased this car April 1983, are on hand and available for inspection. The original owners manual, service booklet and other materials are also in the car, as they were at the time of its delivery.

### Engine

- 23,321 lambda service and ignition service campaign. First BMW repairs 2/13/84.
- 31,322 fix idle and stall problems. AFM warranty issue.
- 34,692 full tuneup plus idle valve and AC BMW service campaign.
- 48,437 new head gasket to correct an oil seepage problem between the head and the block on the right side and to decarb the valves, BMW warranty work. Full tuneup.
- 59,522 full tuneup and timing belt.
- 65,506 Repair cold solder joint on Pin-2 of Idle Control Module to fix intermittent poor idle (too low/high) and stalling problem. (owner repair, BMW unable to diagnose and repair after two days)
- 68,578 Replace front brake pads and sensors, failed coolant level sensor replaced.
- 75,161 full tuneup.
- 78,010 Replace failed radiator fan clutch, locked up running at full rpm's. (owner repair)
- 81,954 fuel vapor purge BMW Engine Campaign performed. Corrected hot starting issue. Rear muffler replaced due to cracked and broken mounting tabs.
- 91,829 full tuneup. Replace ruptured AC hose and recharge AC.
- 103,710 cold start valve. Last BMW service, Evergreen BMW went out of business after 2/27/90, closed without any notice. Hand written note on door said "Out of business Sorry!" Unable to contact any employees or management.
- 105,606 a second, new design head gasket installed and Torx head bolts upgrade. Earlier replacement head gasket did not fully correct oil seepage issue. Timing belt, thermostat and all fuel and water hoses and clamps replaced. Full tuneup. First use of Dulles Int'l Motorsport, Ltd., Herndon, VA. (which now appears to be out of business, February 2008)
- 122,523 Latest tune-up including sparkplug wires, sparkplugs, rotor and cap. Poly alternator bushings. Critical circuit relays (fuel pump, main, radiator fan speeds, headlights) replaced. 1987 Motronic "027" DME/ECU and E.A.T. chip installed. Tests of Conforti and Dinan chips conducted in additional DME/ECU units.
- 124,935 preventive maintenance work with timing belt, water pump, camshaft seals, thermostat, O2 sensor, fuel pressure regulator, radiator expansion tank, radiator, MB antifreeze, fan clutch, drive belts, hoses and radiator fan shroud installed. The radiator fan shroud was not an original part when the car was built in 1982.
- 125,137 new temp sensors (4) installed. Corrected random/intermittent engine idle and stumble problems, sensors were intermittent, as coolant temperature changed. Two were original 23 year old sensors that tested good hot and cold!
- 125,647 new flywheel sensors (2) installed. Preventive maintenance measure.

### Transmission and Drivetrain

Third gear syncro is slow, first noted at 59,522. Condition has not changed, but syncro can be over-run if a fast 2-3 or 4-3 shift is attempted. Normal shifting speeds is not a problem for the syncro.

- 105,606 heavy duty Sachs clutch assy. and release bearing, flywheel resurfaced. This year M20 uses the light weight flywheel. (Dulles Int'l Motorsport, Ltd., Herndon, VA)
- 129,130 rebuilt axle shafts and installation of used 1988 3.46 Limited Slip Differential and new rubber mount. One original CV joint had light knocking, made decision to replace both half-shafts as preventive maintenance.

### Suspension and Brakes

- 31,322 front and rear brake pads.
- 44,251 updated front upper and lower control arm bushings and all shocks replaced to correct brake shudder and suspension vibration, BMW warranty work.
- 48,437 front end alignment.
- 59,522 rear brake pads.
- 68,578 front brake pads.
- 81,954 front end alignment.
- 91,829 front and rear brake pads and rotors.
- 105,606 front and rear Bilstein HD shocks and front end alignment. (Dulles Int'l Motorsport, Ltd., Herndon, VA)
- 124,505 rebuilt E32 calipers and new Balo rotors and pads installed on front and rear. All brake line hoses replaced with stainless steel hoses. 22mm front anti-sway bar and 16mm rear anti-sway installed, both adjustable. As addressed on the web pages, a number of different suspension combinations were tested over a period of several years, using different springs, anti-sway bars, shocks, tires, etc., before the present configuration was chosen.
- 132,011 Meyle front sway bar links, replaced "K" labeled links with failed and leaking rubber boots after only 2300 miles!

-June 2005 Wiechers front strut brace installed. Idle Control Valve, Speed Sensor Connectors Mounting Bracket, Throttle Cable Bracket and Radiator Expansion Tank mounting locations modified to provide proper clearance.

-August 2005 new rear pitman arms and rear sway bar links installed. Suspension components cleaned of minor surface rust, treated and repainted to protect components.

- 127,249 Lemforder 750i Thrust arm bushings in E28 upper Control arms and ball joints, standard lower Control arms, front swaybar links, L & R tie rod assy's, Center link assy and Idler arm. All new component attachment hardware, replacing damaged and corroded/rusted hardware. Right side upper Thrust arm stainless steel heat

shield installed. Not installed on original October 1982 build. Suspension components cleaned and repainted to protect. Four wheel Hunter computer alignment.

## Tires and Wheels

- 123,805 rebuilt BMW style 29 BBS 16-inch wheels (with hub-centric adaptors) with Yokohama AVS Sport 205/55/16 tires fitted. Wheel Collision Center, Bath, PA, supplied all materials and balance services.
- 132,366 new General Exclaim UHP 205/55/16 tires from Tire Rack, installed and balanced by Hogan & Son Inc., Purcellville.

## Interior and Exterior

The interior and exterior has been maintained with Zymol products, since new. It is stored in a heated and air conditioned garage and covered with a fitted flannel car cover. It has been polished and waxed twice a year or more frequently as conditions demand. The interior leather is treated twice a year and the front seats have been reversed twice, first in February 1995 and again January 2006. During the seat reversal, they are detail cleaned and treated while out of the vehicle, which is in addition to their normal twice yearly cleaning and treatment. April 2006 the rear bumper was removed and polished to remove failed anodize finish. Polishing of the front bumper is also planned, pending the identification of a service that can strip the anodize at a reasonable cost. Quotes to date have been in excess of \$800, to strip and polish the bumper! May 2007 a pearl beige leather shift boot was installed, replacing the black vinyl shift boot.

## Electrical

All electrical power and ground connections received their once every two years cleaning and preservation, October 2007, which is a 30 hour maintenance job involving Caig Labs DeoxIT contact cleaner and SHIELD products.

## Modifications under consideration

The replacement of the cylinder head gasket and attachment bolts, with high performance competition parts is being considered. The purpose is to stop the minor oil seepage at the right-side cylinder head to block interface, which is a well known oil seepage issue on all 528e models.

## Summary of Modifications to Vehicle (items not originally installed on the vehicle as delivered)

- E32 7-series front brakes, E34 530i rear brakes and all brake hoses replaced with stainless steel hoses.
- AC Schnitzer full leather 350mm steering wheel. BMW M-Tec 1 385mm recovered and E36 M3 BMW M-Tec II 365mm steering wheel modified and fitted with a MOMO coarse spline hub is also used.
- Hella Euro 7-inch & 5-3/4-inch headlights, grilles and associated high capacity wiring and switching system.
- Bilstein Heavy Duty shocks and ST 22mm and RD 16mm adjustable front and rear anti-sway bars.
- Later model radiator fan shroud installed. This October 1982 build did not have one.
- BMW E39 style 29 16x7 ET20 wheels with aluminum hubcentric adapter rings.
- 1987 325e DME/ECU type "027" with D'Sylva E.A.T. 528e performance chip. (+20 hp, +500 rpm redline)
- 1988 528e tachometer face with 5200 rpm redline. (replaced original 4750 rpm redline face)
- Wiechers-Sport front strut support brace, with associated modifications to engine component locations (Idle Control Valve, Radiator Expansion Tank and Throttle and Cruise Control cables) for brace installation. Original rubber hose used to reposition the Idle Control Valve has been replaced with an aluminum tube, since the rubber hose was found to be collapsing under high vacuum and creating an erratic idle problem. See the website.
- Custom polished and detailed valve cover and associated brackets.
- Taillight modifications to unused lamp sockets for improved stoplight visibility of vehicle from rear.
- Install illuminated window and sunroof control switches (7).
- E32 750i upper Thrust arm bushings and stainless steel heat shield for right Thrust arm bushing.
- 1988 3.46 Limited Slip Differential replaced factory 2.93 Limited Slip Differential. An excellent ratio and combined with the E.A.T. chip, overall performance has improved significantly, without impact to the fuel efficiency I have previously monitored for over three years!
- Pearl beige leather shift boot from Creative Options.

## Currently in progress...

A GlossHaus refinishing kit has been purchased from Dave Crawford and **it will be used on the paint in the fall, 2009**. Dave feels that since the original paint is in such good condition, his system will allow me to get additional shine out of the surface. New photos will be posted to the website after refinishing is complete, showing the results. I've discovered that the right front passenger door was evidently damaged, before I took delivery of the car and the clear coat finish is failing, with its spider web type cracking at the center of the door panel, where it was resprayed. Several body and paint shops have examined the door and this is their conclusion. I am considering what to do about this finding... another respray, or leave it as is, being that it is a 26 year old car. **Update... I have decided to leave the paint problem as is, given the car will be 27 years old this October.**

Since the purchase of the EZcarlift, I have been experimenting with the use of this fine product, showing it to other BMW owners who are interested in it and using it to allow further detail work under the car, which is now much easier to accomplish. Should have had one of these years ago, but better late than never!

-Rod