The Bluegrass Star

A Publication of the Bluegrass Stars Section Mercedes-Benz Club of America May, 2006

LAST MINUTE NEWS: Please inform Nat Williams ASAP via email or phone with the name(s) of all people who will be driving in the Defensive Driving/Autocross event of June 17. See page 4 for contact information.

Please Welcome!

We welcome these new members to the Bluegrass Stars Section of the Mercedes-Benz Club of America. We are happy to have you join our club. The success of our club depends on the participation of all members in our scheduled activities. Your comments on how we can improve of add more interesting events to our activities are very important. We are looking forward to meeting each of you at our club events.

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President's Message

The Bluegrass Stars Section trip to Shaker Village, lunch and tour was a dandy!

We want to thank Bob and Nancy Rece of the Cincinnati Section MBCA for joining up with the Bluegrass Stars Section MBCA for a spectacular drive to Shaker Village of Pleasant Hill, located near Harrodsburg, KY. We checked into the ticket office and picked up our group tickets and waited for our tour guide. A tour guide name Sheila, introduced herself to the group and gave the Mercedes-Benz group a briefing and history of The Shakers. Known by people of the world as "Shakers" because of their charismatic trembling or shaking in worship services, members of the Society lived a life based on separation from the world, communal ownership of property and goods, celibate purity, and confession of sins. During their flourishing years, the Pleasant Hill Shakers lead the state in scientific farming, experimenting with livestock breeding and improving agricultural implements. At 12:00 Noon, she led the group, as scheduled, to have (Shaker's Best), lunch in the Trustees' Office Dining Room.

Photo of BG Group (L/R) Seth Burr, Jutta Burr, standing, Rosetta Williams, Bob and Nancy Rece, and Herb Lork, MBCA.

While we were being served lunch, we were joined by two other members, the Club Photographer, Seth Burr and his wife Jutta. (See photos of the group). After a delicious lunch, the group was happy to start the walking tour of the Village (see photo of the group and the second tour guide as he gave a lecture prior to the group entering the Trustees House).

Although Thunder over Louisville, did affect turnout for the event, we had a great time. Our guest MBCA Club members, Bob & Nancy Rece stated in an e-mail to Nat & Rosie, "Thanks so much for a wonderful and entertaining day at Shaker Village. Beautiful day, great food and new friends, what more can you ask for?" We enjoyed the musical performance. We also did some hopping in the village craft store prior to departing.

Upcoming Events

On **Saturday, June 17th 2006**, the Bluegrass Section will conduct a combined Defensive Driving/Autocross Session at the Center Grove High School in Indianapolis with the 500 Section of MBCA. The 500 Section will provide the instructors and all the equipment needed.

The Bluegrass Stars Section members attending the defensive driving school must be MBCA members and must drive their own vehicle. This is a low-key, relaxed event. You will be taught to do a brake and turn exercise, a no brake emergency turn to avoid an imaginary obstacle in the road, and a maximum-brake exercise to get the feel of ABS. Each driver completing the course will receive a certificate.

After lunch, we will run a short autocross using timing equipment. Each participant will have an instructor for as long as needed for security and safety. Our national organization will furnish blanket insurance certifications for licensed Mercedes-Benz Club members.

We will start at 10AM. This will allow the Bluegrass Section to have more time to get to Center Grove High School, located at the following address: 2717 S. Morgantown Rd. Greenwood, Indiana 46143 .

A $15.00 fee per driver is the charge, which will include a box lunch. We will need to know no later than Saturday, June 3rd 2006, how many cars and drivers will be joining us for the Defensive Driving Event! Please contact our editor or one of the section's officers listed in the Section Officers at the end of this issue. Please give them your name and address and let them know how many in your group will attend the training. A trip packet will be mailed to each vehicle. These packets would include an overview, detailed maps of critical turns, and an end-point map. This should allow any vehicle separated from the group, or late, to still arrive at the intended destination. Please call me on my cell phone at (270) 352-7410 if there are any problems or as needed.

The Bluegrass Section will meet in the parking lot of the Moby Dick Seafood Restaurant Located across the street from AUTOBAHN MOTORS LLC – 1501 Mellwood Avenue Louisville, Kentucky. (exit 7 on I-64, circle around the block to the corner of Mellwood Avenue and Spring Street). The group will depart this location 8:00 AM on Saturday, June 17th 2006.

Come and join us. We can all have some driving fun.

Saturday, August 19th-Bluegrass Stars Section has scheduled a combined Drive-N-Dine event to Bennington, Indiana, with the 500 and Cincinnati Sections of MBCA. After a drive, we will dine at the *The German Corner*. We will enjoy the wonderful cuisine, a stroll through the beautiful rose and flower garden. After the Welches tell about Johanna's German homeland and entertain us with German songs, you'll swear that you are in Stuttgart.

Place: The German Corner
Address: 346 Fairview Road
Bennington, IN 47011
Phone (812) 427-3710

Lunch Time: 12:30PM
Date: August 19, 2006

Cost per person: $23.00. (This includes 15% gratuities) and will cover drinks, deserts, and tips.

Sunday, October 1st – 6th - STARFEST 06, Las Vegas, Nevada.

Saturday, October 21st-Tech Session with potluck lunch at Autobahn Motors. **More details to follow**!

Monday, December 6th-Annual Holiday Party at Erika's German Restaurant.

MBCA Membership Drive

There have never been as many Mercedes vehicles on the road as there are today, and the sales figures for new Mercedes vehicles are up according to MBUSA. This implies that there are also many new potential MBCA members. MBCA has initiated a membership drive, in which current members can get one month of membership free for every new member enlisted via their referral! Forms and information are at the mbca.org website; if you are Internet-challenged, contact the editor (see officers)

and we will send you some forms, or call the MBCA at **800-637-2360.**

Discounted Parts

If you wish to purchase Mercedes-Benz parts, the dealerships and shops listed have agreed to reduce by ten percent (10%) the total price of parts purchased by a Mercedes-Benz Club member with a current MBCA membership card. Your Editor has already more than saved his first year membership by taking advantage of these types of discounts.

TAFEL MOTORS
4156 Shelbyville Road (St. Matthews)
Louisville, KY 40207
(502) 896-4411
AUTOBAHN MOTORS LLC
1501 Mellwood Avenue
Louisville, KY 40206-1749
(502) 587- 7827
See Don, Art, or Duane

THE TRADING POST: CARS, PARTS, BOOKS AND ACCESSORIES

If you have a Mercedes-Benz or significant M-B part that you would like to buy, sell, or trade, just submit your ad to the Editor, *The Bluegrass Star*. All ads must follow the submission rules and the suggested format as found in the back of *The Star* magazine. They will be listed at no charge to a section member; no commercial ads will be accepted, however, without prior arrangement for payment. Your ad will appear in the next issue of *The Bluegrass Star*, and you may request listings in two subsequent issues.

For Sale

Mercedes-Benz Technical Manual, new, reg. $40, now $30. Front & rear floor mats for W123, blue, embroidered star, used, $30. Four 14" alloy wheels, nearly new, $50 each. Half-shafts for rear suspension R107, W115, W123 & others, used, $100 each (**price lowered**). Larry Gettleman *(see Section Officers below).*

Four wheels, 8x16 with tires; fits the 200 S500; 150.00 each; contact Nat Williams *(see Section Officers below).*

E-Mail Addresses

MBCA National Business Office and Bluegrass Stars Section Needs Your E-Mail Address

Over the past few years, we have been able to add and/or adjust last-minute events, change in dates, etc. to our calendar of Events. The Bluegrass Section Newsletter is not necessarily the timeliest method of notifying you of something new on the schedule of a change in venue. **MBCA rules are very clear: your address will not be sold or otherwise distributed!** The National Business Office currently maintains a list of members' e-mail addresses. We certainly understand that you do not want unsolicited mail. The list is only used to send reminders of changes / addition to upcoming club activities.

Section Officers

You can contact the Section Officers by snail-mail, phone or e-mail:

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116/117 Engine Dress-Up
Steve Loboyko

I was a little disappointed in the appearance of the engine compartment in my 560SL. This was an expensive car when new, but the engine compartment looks like under the hood of a 1979 Oldsmobile - that is, full of oil, dirt, bare cast metal, and lots of ugly wires and hoses. Newer MB's (like a lot of post-1990 cars) are made with good looking engine compartments, probably to hide the complexity of the wiring! I had already replaced the valve cover gaskets (the #1 cause of dirty engine comparments) and then cleaned everything by hand. I had also replaced the front and rear hood pads.

I decided to dress my engine compartment up further. I knew that this might devalue the car from originality point of view, but I'll leave that problem to my heirs.

I searched for Mercedes engine dress-up parts. Guess what? There really aren't any, and what few there are are for much newer cars. You can get just about any external engine part for a small block Chevrolet engine in chrome or polished aluminum at prices not much higher than for a non-finished part. Well, there aren't many MB hot-rodders around, and, therefore, darned few MB dress-up engine parts for them.

So, I was on my own. I found that many accessory items on the 117 engine are made of aluminum castings, and therefore suitable for polishing. I acquired some supplies and tools for polishing. I purchased a drill mount buffing wheel, industrial metal polishes in various grades, an inexpensive bench-mounted buffing machine (actually a modified 8" grinder), sandpaper, sanding flap wheels, and small buffing bits. I had a cable-operated Dremel-type tool for working in small crevasses. It should be noted that a buffing machine is fairly dangerous to operate (flying parts!) and it is important to understand how to use it safely before starting on a project. Dust protection is crucial and you should wear a mask. This work is also extremely dirty, because many of the abrasives are provided in grease sticks.

The first parts that I polished were the valve covers and air cleaner assembly. Only newer 107 air cleaners are made of stamped aluminum; the valve covers are cast. The air cleaner was easy, although there were some corrosion pits that I could not eliminate, because this would involve the removal of too much metal. The valve covers were very rough castings in spots and considerable metal had to be removed before polishing. Special care was needed to polish them because they are quire fragile - I bolted the covers to a piece of plywood while buffing. Again, there was a limit to how far I would go in metal removal to eliminate casting imperfections. My car is not a show car, although I drive it only on dry summer days or occasionally in the winter just to excersize it.

I next sanded/polished the fan. This was extremely difficult, and I would not recommend polishing it. The casting is delicate and easily broken; It's also a part that was probably balanced at the factory and metal removal might change that balance. I wouldn't have done it without having a good spare. I coated it with high-temp engine clear because the alloy seemed to dull almost immediately after polishing.

The next phase involved "harder" parts. I removed the alternator arm, front engine pull, power steering and water pump pulleys, the alternator pulley,nut, and fan, the heat shields (over the exhaust manifolds) and had them chromed. I polished the water pump (a new water pump); it was very difficult due to the number of small crevasses in the casting. The alternator, once disassembled, was actually a very good casting and needed only minimal sanding. The alternator mount to the engine was a very rough casting and took considerable effort to sand and then polish. The distributor was an excellent casting and took little work to do. The lid on the power steering pump is apparently made of zinc, and once turned by mounting on a drill press with a screw and sanded/buffed, it looked as though it had been chromed.

When the chrome plating job was returned to me, I reassembled the engine and cleaned it during the process. It turned out very well, in my opinion. As you may know, bare aluminum will oxidize almost immediately in the presence of oxygen; this would dull all of my polishing work. I have found that putting a very thin layer of oil over the aluminum every few months will keep it looking good for a long time (not a bad idea for all of the aluminum trim on your car, either). Wiping with a rag moistened with clean oil and then polishing with a clean cloth is sufficient.

The finishing touch that I polished was the power steering pump itself. Note that only newer 107 pumps are housed in aluminum. I became obsessed to the point that I bought an $80 tool to remove the pulley. This was not as nice of a casting as I had originally beleived, and it had many curves. I didn't remove every single imperfection, particularly in places not visible when the pump is installed in a car, in it but it is definitely "good enough". I took the opportunity to thoroughly clean the internal areas and to replace the filter. I removed the nameplate carefully by prying up with a razor blade (its held in my pins) before I started polishing. I replaced the pins with screws when the plate was reinstalled..

In conclusion, was it worth it - that is, was it worth the significant expense and the hours and hours involved in this project? Well, yes - and no. It is much easier to keep a clean and polished part clean. It does look nice. But in terms of adding value - well, it's more valuable to me!

The Weak "Link" in 80's-early 90's Gas V8's (116/117)

Mercedes engines are renowned for operating with no trouble or rebuilding for hundreds of thousands of miles if kept in the correct amount of clean oil. However, they do require a certain amount of inspection and maintenance in order to achieve this, particularly on the top end - namely, inspection and maintenance of the heads and the valve train, and particularly, on the 116/117 engines.

Perhaps you've heard of the dreaded "timing chain" problem. When I bought my 560SL, I did a great deal of research on this, and this article will detail my experience and the consensus of experienced mechanics whose opinions I've read on various Internet boards. Basically, these engines have a very, very long timing chain that is tensioned by oil pressure and guided by plastic (Nylon or Derlin, probably) guides. This may seem hard to believe that these engines have plastic bits in them, but it's true! Should this chain fail or "jump time" (that is, skip a tooth on the gearing), the valves are no longer synchronized to the pistons, and they can meet with great force. At the very least, this can mean bent valves and a heads-off valve job; at worst, the camshafts can break, or the pistons can actually be broken. This is the primary COD (cause of death) for these engines and the cars in which they reside. Rebuilding these engines is very expensive and due to certain block preparations required. Only a few machine shops are really qualified to do a full bottom-end rebuild of a Mercedes engine.

When miles and years start adding up (even on a well-maintained car), two things happen in the timing chain area; firstly, the tensioner mechanism starts to leak slightly from its one-way oil valve. It is thought that dirty, old oil contributes to this leakage. This means, that there are a few moments when the car is started, when the chain is not under much tension due to the lack of oil pressure. The guides are slapped by the chain. Eventually, the guides will break and pieces may get lodged inbetween the chain and gearing, or the guide will no longer be able to keep the chain tight. At this point, the chain may jump the gear and/or break, and the above nightmare scenario can occur. Timing chain failure happens most often upon start-up.

MB doesn't really give any "guidance" to miles or years for the replacement of these parts; the expert consensus seems to be every 100,000 miles or 15-20 years to replacement. The upper plastic guides are usually the ones that deteriorate first; the consensus seems to be that the lower guides, inside the front cover, last much longer, 200-300K miles. The exception to this is the early 380 engine, which between approximately 1981 and 1983 had a narrow, single-width timing chain; this should be inspected or replaced much more often, or better yet, upgraded to a double-width chain. Upgrading is not cheap, because many components have to be replaced, some behind the front engine cover. Removing this cover is considered by many mechanics to be an engine-out job. Some 380's were actually upgraded gratis by MB in the past (but not anymore), or they were upgraded by their owners; the only way to be sure of what you have is to physically inspect it or look through your maintenance records. It is possible to inspect this area through the oil filler on the cam cover, and towards the front of the car, using an inspection mirror. Otherwise you can remove a valve cover and look Consider yourself lucky if you see a wide chain on a double row toothed gear.

Going Bad?

You can't really tell if the tensioner, chain or guides are "going bad" simply by looking externally - there is a fairly complex procedure for measuring chain stretch, and there is no published criteria with which to judge the quality of the tensioner. If your engine sounds "funny" - like something like metal hitting, dragging or slapping or rubbing for a few seconds after start-up, even after only a day of inactivity -this is an indication of tensioner leakage and/or chain slap. This is what I heard before I replaced my components. If you hear these sounds, you need to do something ASAP. It could be the difference between a several hundred dollar/few days and several thousand dollar/few weeks problem.

Do it Yourself?

Replacement is not a job for first-time mechanics, and it is a job that is absolutely intolerant of error. In addition to having a good hand tools and torque wrenches, two and possibly three specialized MB tools are needed. If you are lucky, you can find someone to lend them to you. The first needed tool is the valve compressor. Virtually all of the valve compressors available at automotive stores will not work due to the geometry of the 116/117 V8. If you are very handy, you might be able to make one of these, or modify a low-cost model from an automotive store. Otherwise, there are a limited number of sources, and these tools are not cheap, ranging from $140-180. The second tool needed is a pin puller; this pulls the pins that hold in the plastic chain guides. Again, if you are very handy there are alternative methods for removing the pins involving bolts and washers described on various Mercedes boards. The third, which is somewhat optional, is an installation cover for the chain and gear; this makes it much easier for one person to do this job - otherwise, you really need two people to install the chain - one to hold it, and one to turn the engine. This tool also makes a big boo-boo - that is, dropping the loose chain into the engine when it's not connected in a loop - almost impossible.

Access to a manual - the Mercedes shop manual on CD, for example - is critical. The old Haynes manual is also very useful.

What to Replace?

Almost always, a timing chain job consists of replacing three upper plastic chain guides, the tensioner, the tensioner arm (has a plastic component), and the chain itself. However, It's always a good idea to assess what other components could be replaced while you are doing a particular task. Most commonly, the valve cover gaskets and (plastic) cam oiler fittings are replaced along with the timing chain components. In my case, having very limited service records on my car and not knowing the mileage/replacement date on individual parts, I also replaced the water pump, thermostat, and all front-mounted hoses and belts. Access to these parts is easy given what needs to be removed in order to do a timing chain replacement. If you are having this done at a shop, a very considerable reduction in labor hours should be given for replacing these components along with the timing chain procedure.

Conclusion

Although very reliable, the 116/117 engines utilize a very long timing chain and other components not immune to mileage **and** age, whose failure can cause spectacular and expensive repair bills. Inspection and preventative maintenance is recommended in this area even more strongly than usual!

Now that I've done this work, I don't have to hang on to my wallet and cross my fingers every time I start my car.