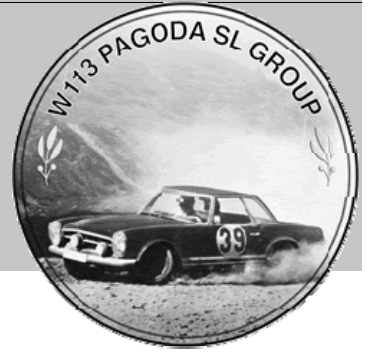


Pagoda Notes



Pagoda SL Group—www.sl113.org

Pagoda Ponderings

Greetings!

- Welcome to the fourth Pagoda Group Newsletter
- Let us know your thoughts, comments and ideas for improving the letter
- We are looking for ways to enhance the use of the web site and the overall membership of SL113.org

Inside this issue:

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It is hard to believe, but we can now put another year in the books. As I write this, there are predictions for the first flakes of snow! I have put the car to bed for it's winter sleep. For those fortunate enough to live in the more moderate climates, we will continue to enjoy (and be envious) hearing from you through the course of the winter.

I trust it has been a busy year for everyone. The forum has continued to grow and develop as old friends share experience and new friends join. We now have to wait another couple of years for Blacklick, but perhaps some other section, in another region, will hold a 2008 gathering??

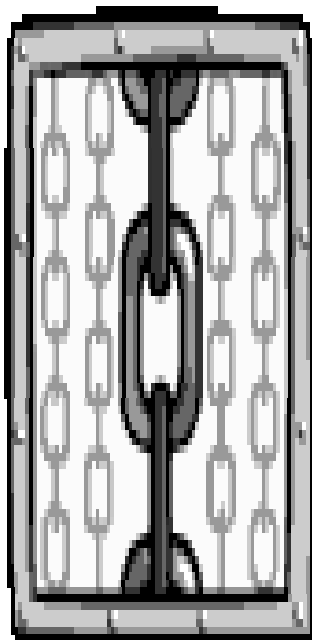
We are continuing to experiment with Pagoda Notes, and this issue has eight pages. Please let us know what more we can do to keep Notes a useable addition to the ranks of Pagoda-philés.

It is now the season to share some time with other friends and family as we go through the Holidays. Be it Christmas, Kwanzaa, Chanuka, St. Nicholas Day; it is important to think about those around us and to

share with them.

Merry Christmas, Happy Holidays and Happy New Year to all! May we meet somewhere on the roads in 2008!

Photo by the Ed.—Glenmoor 07



Touring With Joe— Linking Up!

In our last issue we toured through the fuel tank, so now it is time to get a little closer to the engine. Joe's romp through the maze of linkages was very popular, so now we will have it in print, with the pictures and diagrams.

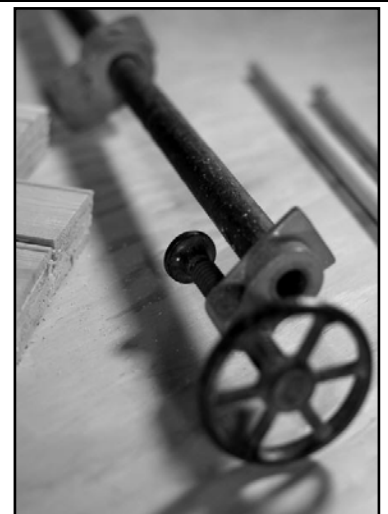
So without further delay—let the touring begin!

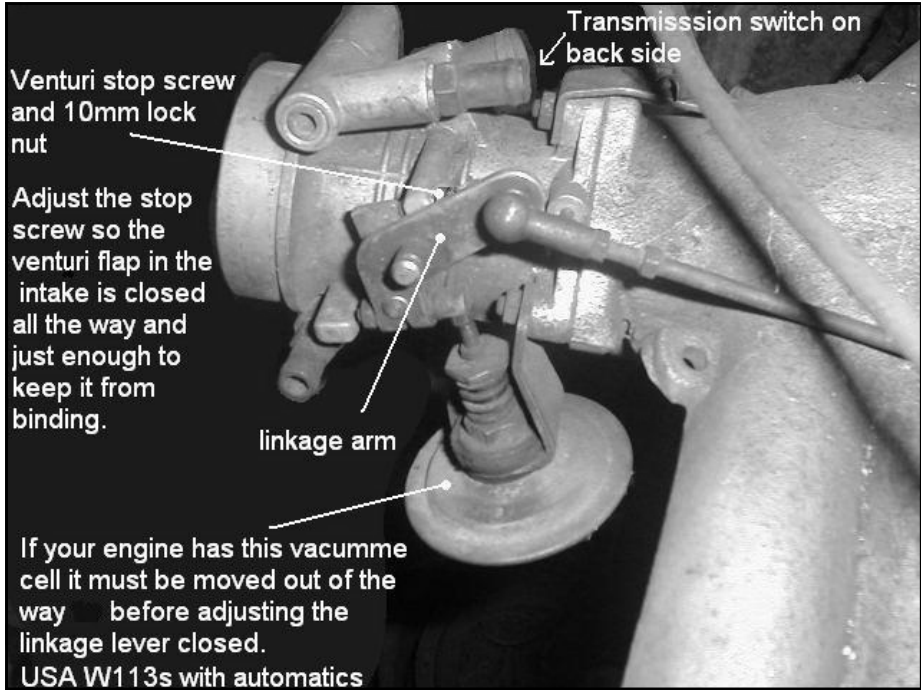
The intake venturi is one of the most important aspects of the engine linkage adjustment, engine tuning and automatic transmission shifting. When not

adjusted properly, problems with improper idle speed, hard automatic transmission shifting, up or down shifting and erratic engine behavior may result. Proper linkage adjustment will be nearly impossible if the venturi is not correctly set.

The intake venturi stop screw.....

The most common and first item to check is the small slotted stop screw with lock





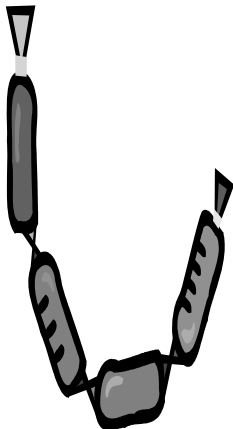
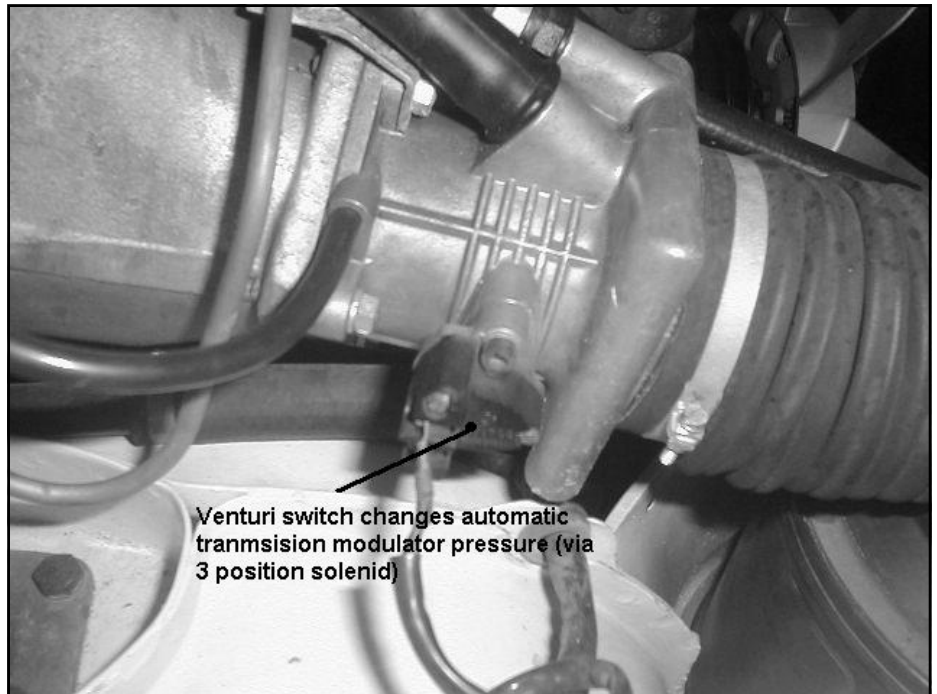
Touring With Joe—Linking Up! (Cont.)

(from page 1)

nut on the intake venturi. This is factory set and is frequently mistakenly used as an idle adjustment screw. This stop screw must be set so that the intake linkage arm and venturi valve in the intake closes all the way! When not set correctly too much idle air will be admitted to the engine causing lean idle mixture and/or too high engine idle rpm. An uninformed person may compensate for the situation by tampering with injection and linkage adjustments thus getting the engine even further from being in correct tune.

“Correcting an improperly set venturi can make an amazing difference in shifting, engine idle and engine performance”
 Joe A.

W113s with automatic transmissions also have an electrical switch attached to the venturi. This switch lowers and raises modulator pressure by activating the three position solenoid on the transmission. Harsh downshifts (especially the last downshift before a stop) may result when not adjusted correctly. Correcting an improperly set venturi can make an amazing difference in shifting, engine idle and engine performance



Disconnect the linkage rod going from the cross over rod to the venturi. If you have a USA version with the vacuum dash pot, you will need to move it out of the way so it does not interfere with the adjustment. The small slotted venturi set screw

must be backed off enough to allow the venturi valve to close all the way and then adjusted in just enough to keep the venturi valve from binding in the intake.

USA 280SLs had a "Vacuum throttle control" on the intake venturi linkage. A special link-

age with a "slip joint" was also used between the venturi and the cross-over rod on the engine. Adjust the slip joint linkage so it is fully compressed with the engine running and warm at idle in neutral. Adjust the vacuum control/linkage to zero clearance. Now with the

transmission in gear, the throttle lever will open 1.0–1.5 mm. If you have a factory shop manual with the USA versions, look at job 07-14/7. It gives the procedure to adjust the unit. Adjustments of the other linkage and tune-up items can follow afterwards if the idle is too high or too low or the mixture is incorrect.

Six Basic Steps to Correct Linkage Adjustment

1. Determine what added linkage inputs are connected to your linkages. This varies depending on model and production year. (see descriptions)
2. Disconnect the linkage between the venturi and the control rod.
3. Back off the small slotted screw with 10mm lock nut until the venturi valve is completely closed. The set screw is set just enough to keep the venturi from sticking closed.
4. This linkage rod is adjusted to 233mm from center of ball socket to center of ball socket
5. Some engines have a 10mm alignment bore. A rod can be inserted and the the linkage ball should align at rest. If your car has the linkage with the "slip joint" it must be installed in the compressed state.
6. Make sure that the venturi valve is all the way open when the accelerator pedal is on the floor. Never tamper with the "factory set" linkage stop screw on the injection pump

Joe Alexander
Blacklick, Ohio 2006

Linkage inputs vary depending on year and model

Venturi Vacuum control idle governor and "slip joint" linkage

Linkage Dampner Dashpot

Constant Speed Solenoid

Progressive Linkage

Hydraulic Idle Control Governor

Joe Alexander
Blacklick, Ohio

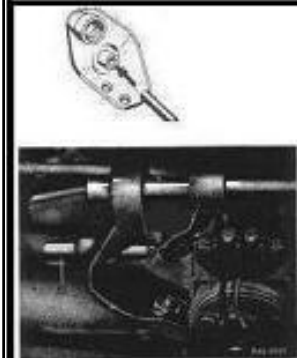
Touring With Joe—Linking Up! (cont.)



Vacuum Idle Governor (Dashpot)

This feature was added to the USA W113s with automatic transmissions. It is used in conjunction with a "slip joint" linkage rod between the venturi and the engine "cross over" linkage rod.

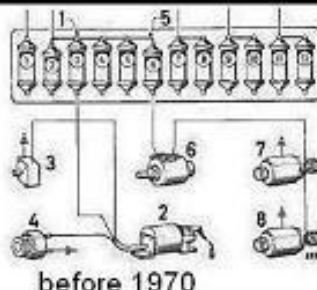
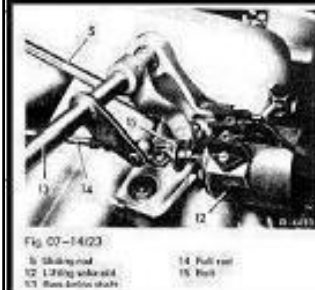
To adjust: place warmed up and running engine in neutral. The linkage slip joint should be fully compressed. Adjust screw head (10) to zero clearance. When engine is placed in gear, the linkage lever should move 1.0mm to 1.5mm off it's stop.



Linkage Length Adjustment

Some of the engine linkage supports are provided with an alignment bore. A special tool or 10mm dowel is inserted into the bore and the linkage ball end can be adjusted to align with the dowel.

The linkage rod between the injection pump and the "cross over rod should be 233 mm from ball socket center to ball socket center.



Constant Idle Solenoid

Used in W113 cars with automatics before 1970.
Used in W113 cars with Air Conditioning after 1970
It should be adjusted to maintain a constant idle rpm when placed in gear (before 1970) or it should maintain rpm with the AC on (after 1970).

It is common to find these not hooked up in W113 engines without AC after 1970.

joe alexander

Thanks to Naj Jesani for pointing out what linkage parts should be checked for wear and for supplying parts numbers:

127 072 0185 spherical brass bushing (2 required)
000 991 8922 rod end ball socket RHT (as required)
000 991 9022 rod end ball socket LHT (as required)

During regular maintenance engine linkages should be lubricated with a light oil. Often times the block pivot is missed and may begin to bind or seize after periods of inactivity or storage. Try using some penetrant first then oil after it becomes free. This photo (on the bottom of page 5) is a sedan pivot. The location is the same (under the intake manifold) and the unit is very similar. Also note the

factory coolant drain plug location in the picture.

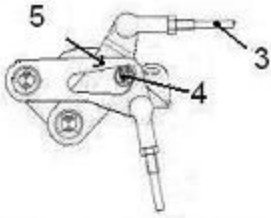
I have never seen a specific length listed for the rod between the pivot and the manifold, but if it is too short your accelerator pedal may be too high. If it is too long you may not be getting full throttle. One easy test is to hold the accelerator pedal all the way to the floor (engine off). Next have someone check to see if the venturi is open all the way.

Now some information on the firewall accelerator pedal linkage and adjustment. The linkage between the block pivot and the intake manifold lever should be checked first before tampering with the firewall adjustment.

When the accelerator pedal is at the

floor the venturi valve should be wide open. If not you are losing a lot of power. This is fairly common problem. With automatics the pedal must also contact the "kick down switch". Adjust at the firewall after checking the other linkages.

This picture is shown at the top of page 6

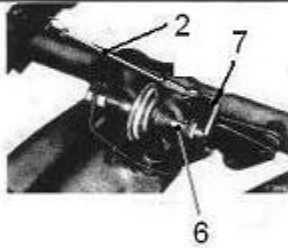


Progressive Regulating Linkage

Some engines have a progressive linkage on the intake manifold

Adjust linkage rod (3) so that the roller (4) rests lightly in the position indicated (5) without exerting any force.

(ref. early BBB p.00-16/3)

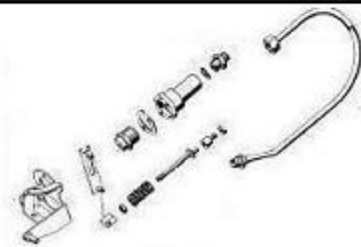


Throttle Damper (non vacuum dashpot)

Some 230SLs have been provided with a non-vacuum dashpot.

To adjust: the lever arm (7) should be adjusted to travel 4 or 5mm before lifting off pin (6).

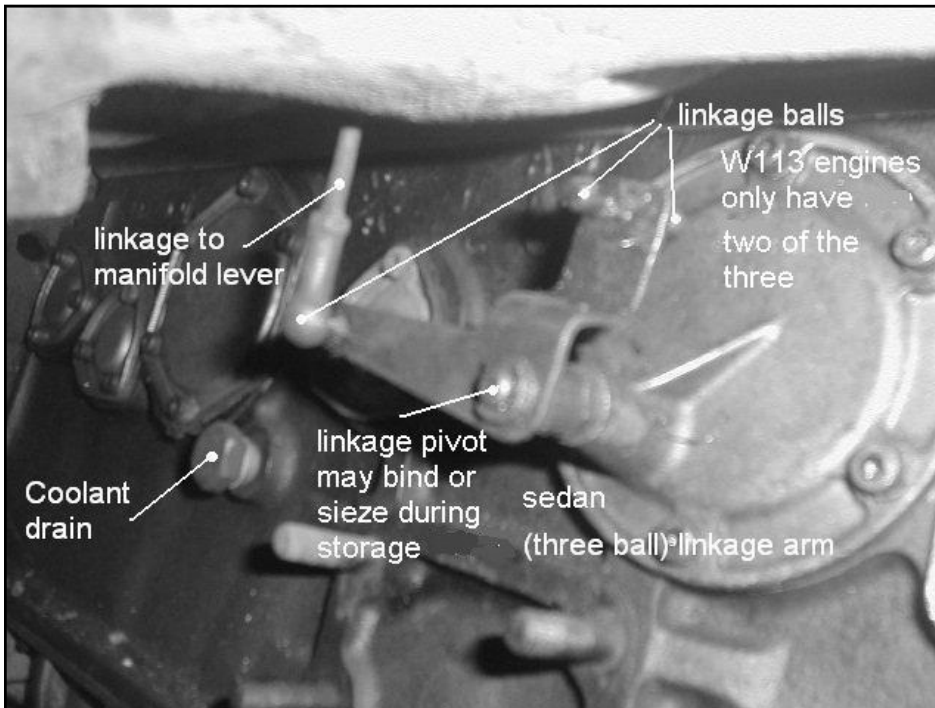
(ref. early BBB p.00-16/4)



"Speed Build-Up"

This was a device added to some early models with automatic transmissions and power steering. It was a hydraulic cylinder taped into the power steering system. The cylinder is adjusted to keep the idle from falling below 600rpm while steering at idle in gear.

joel alexander



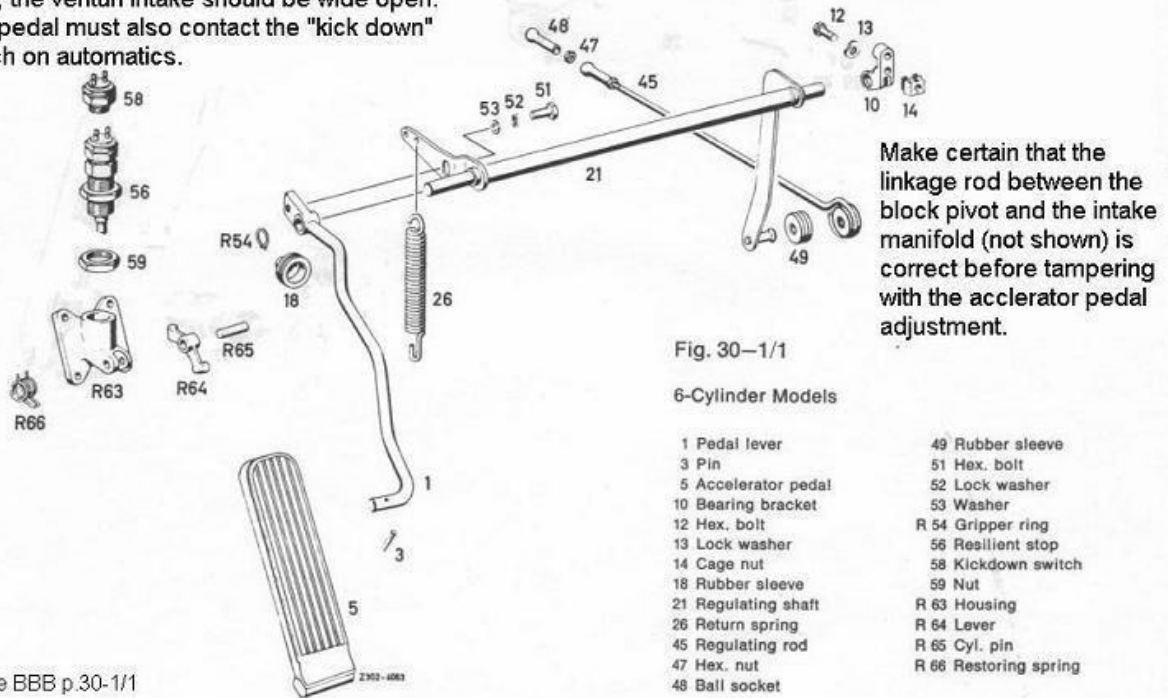
This is the picture showing the block and manifold pivot..

Ensure that the venturi is closed and the injection pump lever is on its stop. Also make sure the venturi stop screw is only adjusted just enough to keep the butterfly valve from binding.

Check that the engine is getting full throttle when the accelerator is on the floor. There is a accelerator pedal height adjustment at the fire wall near the brake booster. By loosening the 13mm bolt head and removing the spring, you will be able to adjust the accelerator pedal height. Afterward make sure the accelerator pedal gives you full throttle when floored. Also be sure that the accelerator pedal just hits the kick down switch (on automatics) when the pedal is depressed at full throttle. Changing the length of the linkage rod going to the block pivot will also change pedal travel and throttle.

Touring With Joe _ Linking Up! (cont.)

The accelerator pedal height can be adjusted by removing the spring #26 and loosening the 13mm head bolt # 51. When pedal is at the floor, the venturi intake should be wide open. The pedal must also contact the "kick down" switch on automatics.



*late BBB p.30-1/1

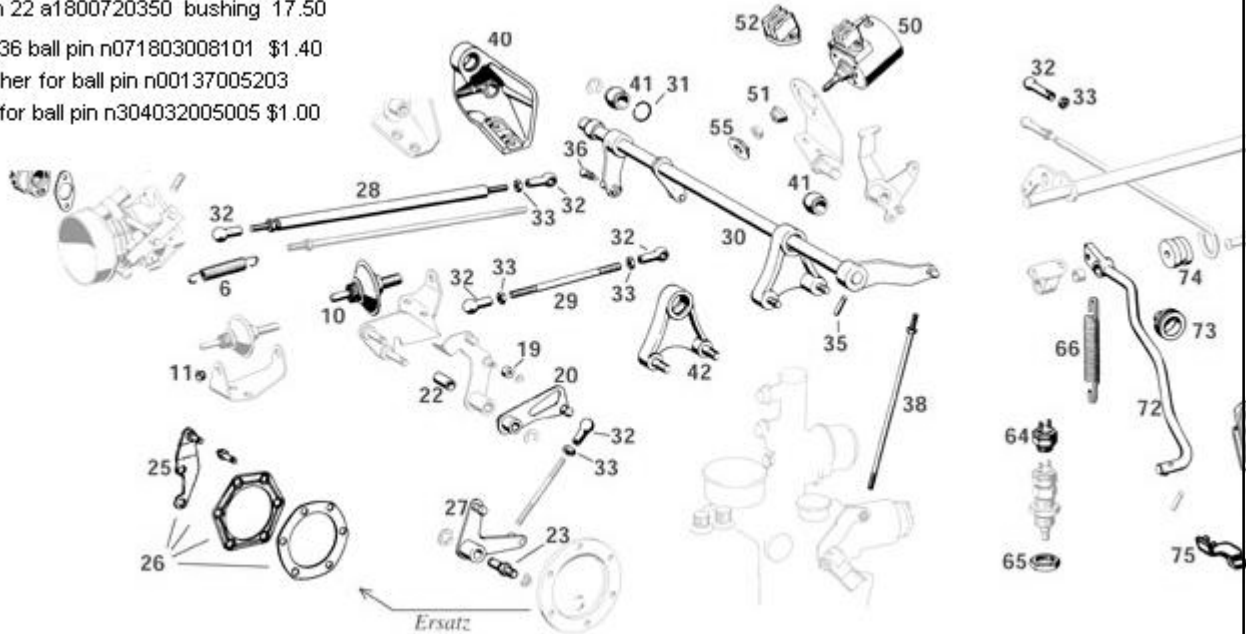
30-280SL : 30 Acc Linkage

item 22 a1800720350 bushing 17.50

item 36 ball pin n071803008101 \$1.40

washer for ball pin n00137005203

nut for ball pin n304032005005 \$1.00



Some additional comments:

The arm on the air control doesn't need to be fully opened to be adjusted properly. On most cars it will come close to the full stop screw but still not touch. This is OK. What you want is for injection pump and the air controller to open at the same time from the idle position. The arm on the injection should hit the full stop in this case.

Due to the way the linkage is set up the air control linkage moves faster in the mid open position than does the injection pump. When the arm on the pump is opened at about 40 degrees the air control arm is maybe 50 degrees but they both end up at the same 80 + degrees when fully opened.

In order for the linkage to be able to move freely to the max opened position there should be about 1 mm of gap at the full stop screw so that it doesn't touch.

Dan Caron

This is a subtle but important statement the Doc makes. Often times this stop screw gets involved in the linkage and somehow becomes part of the idle adjusting process. This makes sense since if it is pushing/holding the linkage – any turn of the screw would change the idle... Problem is, besides throwing the linkage off its true course, this has an effect on the transmission (usually leading to harder, clunkier shifting.) As Dan says, they should be separate from each other.

James

Select Events:

Shows:

Cavalino Classic—Palm Beach Fl, 22-27 Jan 08

Boca Raton Concourse—22-24 Feb 08

Amelia Island—7-9 March 08

Top Marques Monaco—24-27 Apr 08

Los Angeles Concours—1 Jun 08

Auctions:

Barrett Jackson, Az 12-20 Jan 08

Time to Sleep!

For those of us in the more northern climes, November/December is the time most of us put our Pagodas to bed for the winter. The salt, snow, ice, cold and other generally unpleasant aspects of the season are not at all friendly to old cars. Here are some tips gleaned from experience and knowledgeable friends about how to ensure a safe slumber for our 113's.

1. Wash the car and put on a coat of wax. It is a good idea to drive the car for a few miles to ensure that the water passages and other low collection points are generally dry.
2. Fill up the gas tank, and put in a gas stabilizer or gas additive (I use Techron).
3. Inflate the tires to about 40-45 psi to minimize the flat spots.
4. Change the oil and filter.
5. Put a de-odorizer, baking soda, or similar in the interior to keep odors down.
6. Top off the water in the battery, if using a regular lead-acid cell. Consider the use of a battery tender to keep the battery fully charged up.
7. Once the engine is cooled down, cover the air inlet and the exhaust tips with plastic (and aluminum foil) to keep small critters from climbing in.

Russo and Steele—Az, 16-18 Jan 08

Florida Collector Car Auction—15-17 Feb 08

Other Cool Stuff:

Rallye Monte Carlo—1-6 Feb 08

LeMans Classic—11-13 July

Star Fest 08—Sep/Oct 08 in San Francisco.

Museums:

Auburn Cord Duesenburg—Auburn Indiana

8. Put down a sheet of plastic under the car to prevent moisture from the floor from affecting the car.
9. Put a towel or small rubber tube under the wiper arms to keep tension off the windshield wiper arms.
10. If you run across a clear and dry winter day, and are tempted to drive the car, go ahead, but drive for 20 miles or more to ensure the car is warmed up. It is not a good idea to start the car periodically and let it idle for a few minutes. Resist the temptation and be patient until spring!



Automotive Hall of Fame—Dearborn Michigan

Ft. Lauderdale Antique Car Museum—Ft. Lauderdale, Florida

Sloan Museum—Flint, Michigan

Car Shows:

San Diego International Auto Show—26-30 Dec 2007

78 Salon d'Auto—Geneva Switzerland , 6-16 Mar 08.



Organization

Pagoda SL Group—www.sl113.org

Cees Klumper—President	Netherlands
Rodd Masteller—VP	USA
Jim Villers	USA
Michael Hund	USA
Peter van Es	Netherlands
Jon Bernardi	USA
Joachim Ahlert	Germany
Dan Caron	Canada
Tom Sargeant	USA

From the Charter of the Pagoda SL Group:

The purpose of the Group shall be to increase knowledge and appreciation of Mercedes Benz SL automobiles, particularly the W113 chassis cars including the 230 SL, 250 SL and 280 SL models produced from 1963 to 1971; to foster sharing of information, facilitate meetings and other events among owners and admirers of these cars. The Group shall be not for profit but may engage in profit making activities when appropriate to achieve the above stated objectives.

The purpose of the Group shall be to maintain the historical heritage of the Mercedes Benz brand and products, particularly the W113 230SL, 250SL and 280SL models produced from March 1963 through February 1971.

Comments—Editor@sl113.org



More Events

Please let us know what other events you know about and their associated web sites.

We very much want to promote local 113 events, but we need to know about them in advance

to post them in Pagoda Notes.

Just send an e-mail to Editor@sl113.com

Happy Motoring!!

We're on the Web!

www.sl113.org

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