



# POST "55"

*for the Rolls-Royce Silver Cloud, II, III and Phantom V  
Bentley S, S2, and S3*



## ***Replacing the Window Channels/ Window Sweeper/Upper Window Seal on a Cloud III***

*Larry Durocher (LSCX671)*

Window rattle in my Cloud III had become sufficiently annoying that I decided to replace the window channels, etc on front and rear doors. Most shops replace the channels by first removing the window frame from the door. I decided to simply replace the channels in place to avoid alignment /positioning problems associated with removing/reinstalling the window frames. Due to decreased access, I am not sure that I really saved man-time by this approach.

The pictures illustrate the right-side rear door but the procedure is identical on a front door; a few minor exceptions are noted. Sections S2 and S4 of the Workshop Manual give fairly complete descriptions of the removal of major door components. For completeness, I will give a step-by-step outline of the procedure for doors with electric windows:

- Remove the door handle; the door handle is removed by turning the retaining ring counter-clockwise. Most rings are only hand-tight but a pin-spanner may be necessary if someone has highly tightened the ring.
- On a front door, depress the clamping lever and slide the armrest out of the guides. Unscrew the two Phillips-head screws that clamp the guide to the door panel. Do not lose the annular spacers that keep the door panel at a fixed distance from the inner door. If you reassemble without the spacers, you may crack the door panel or, at least, warp the panel as you tighten the screws. I use small rubber O-rings on the screws to keep the spacers in place on the screws when reinstalling the guide.
- Use a door upholstery removal tool (see Figure 1 for two types) to pry the upholstery clips, one by one, out of the upholstery bases (see

*continued on page 3*

## ***"Open The Door Richard"***

*Corky Morrison (LSHF43)*

Anyone of a certain age, will recognize the above as being a song title from the 40's-50's.

What has this to do with RR or a B? Well, the right rear door on my 58 Cloud [LHSF 43] wouldn't open for Richard or anyone else.

What to do? Take of the door panel and fix it. Right? Sure. Try that on a closed door. I could loosen the leading edge of the panel, but I

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For submission of future articles, please fax or e-mail your article to Debbie Habacker.

Please add "Post 55" to the subject line for your article to be opened. Photographs need to be at least 200dpi to reproduce properly.

To post a picture of your favorite Cloud, Phantom, or S, send graphic image to webmaster@cloudsociety.org

Happy 2004 to all of our wonderful silver Cloud, Bentley S, and Phantom V members.

Hope your New Year has started off with a bang (and it is not coming from your PMC) and you haven't broken your New Year's Resolutions just yet.

Personally the New Year always brings out the mantra of "doing Better This Year" in all aspects of life and resolving the usual: better time management... more quality time with family, friends and fellow car buffs... losing a few pounds and taking better care of myself... working smarter and not harder... learning how to use all of the great gadgets at my disposal that I never seem to have time to read the directions for... taking some classes... making my business successful, and carving out some time for some FUN. Whew! I am sure your lists are equally as long.

One of the first things that I have had to realize, however is that I cannot do everything. Some things just have to be delegated and some things have to be deleted altogether. With that said, I am afraid that Bill and I won't be able to attend the wonderful Society Seminar planned in Bradenton, Florida next month, but hope that many of you will be able to attend. It sounds like it will be a great one. If you haven't signed up, be sure to call RR0C and make your plans ASAP. I am sure at this point in time space is probably running low.

Hopefully you are all receiving your technical e-mails and learning more and more all the time on what to do and how to do it when it comes to repair and maintenance for your PMC's. If for some reason, you are not on the technical e-mail list, please contact Larry Durocher by e-mail at larry@cloudsociety.org to be added to the mailing list.

This issue is packed with great informative articles, a web site update, a photo essay from Newport, Rhode Island and our Society Club stores ordering info so you can show your Society support at future events.

Plans are under way for some great activities for this year's National Meet, including a Society sponsored seminar from Hilborn Interiors and a not to be missed Society Dinner. Also, some additional seminars are in the planning stages for the Society. Should be quite a year and we will keep you posted. Safe and happy motoring...

Until next time,

*Debbie*

*continued from page 1*

Figures 1 & 2). Although a screwdriver can be used, these tools lock on the clips in such a way that you are far less likely to pull a base out of the wooden door panel. I prefer the "wedge" type of tool since it automatically applies a gradual prying motion to the door panel.



*Figure 1*



*Figure 2*

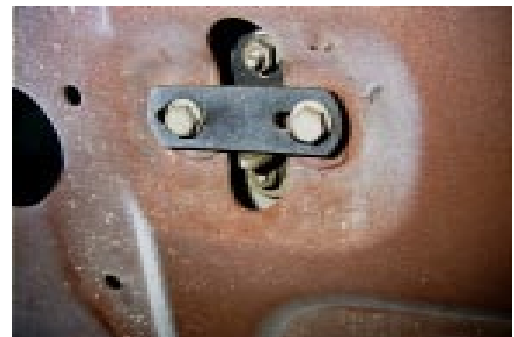
- Note and mark the electrical connections (three for a single window switch, twelve for the drivers door) to the window switch (power input is the center connector on each switch).
- If you have electric windows that move slowly or sometimes do not work at all, this is a good time to check the resistance of the window switch (see previous article in POST55) and the electric motor ground. A dirty switch or a bad ground will cause such symptoms. With the door panel loose, you can easily bypass the switch and see the window speed when you put a jumper across the connections (center to top or center to bottom) or add another ground wire from the motor to the frame.
- Remove the wires at the window switch and the door panel is free.
- Inspect the door panel clips and bases. Usually one or more are damaged and should be replaced. This is also a good time to "clean and feed" the door panel leather since you now have access to the

leather on the back and edges of the door panel. These regions have probably never been treated and are hard and brittle. I use the Leatherique products for leather conditioning.

- Remove the thin plastic sheet that is glued to the metal door panel. This sheet can be gently pulled from the door for reuse. Many cars no longer have the plastic sheet; its purpose is to keep moisture away from the wooden door panel and leather. If the sheet is not in place, get some plastic sheathing at a hardware store and cut an appropriate pattern.
- Remove the grab handle. The grab handle has two studs that thread into captive nuts. Insert a 7/16" stubby open-end wrench between the wood veneer and the metal door to loosen the two captive nuts. Do not misplace the two annular spacers that go through the door wood and keep the grab handle a fixed distance from the metal door. If you reassemble without the spacers, you may crack the wood and will certainly damage the finish as the grab handle embeds itself into the soft wood.
- Remove the door wood by unscrewing the two retaining screws and gently lifting/prying the door wood from the door. The door wood should have a layer of black felt between the wood and the contact surface of the metal door and along the area adjacent to the door glass. Inspect and replace the felt as necessary.
- Remove the upper sheet metal frame that holds the grab handle captive nuts. It is held in place by 6 screws.
- Drop the window glass to its lowest level, remove the appropriate rubber bumper (see section S4) from the window mechanism. For the rear passenger door, the rear bumper must be removed.

Remove the two 3/16" Allen screws from the pick-up link of the window chain.

*Figure 3*



*continued on page 4*

*continued from page 3*

- Note the number and location of all washers and then remove the two screws, the two nuts, and remove the rubber mounting and stop tongue, see Figure 3
- For a front door, remove the retaining screws and detach the brace from the door, see Figure S14 in the Workshop manual.
- For a rear door, remove the cotter pin on the check strap. Check the door pivoting carefully. Without the check strap, only the rubber insert at the bottom of the door opening, keeps the door from pivoting so far that it may be creased by the front lip of the body opening. Remove the four bolts holding the door assist or and withdraw the door assister and check strap as a unit, see Figure 4. If your door did not have any "springiness" to it, the door assister springs may be broken. Some door assisters make a "creaking" sound as you open the door. A service note from Rolls-Royce indicated that some of the assisters were manufactured with insufficient space between the door assister casting and the internal spring and hence material must be removed to eliminate the "creaking" sound. A small hand grinder would probably do the job. Degrease the assister, check the spring load, and pack the whole mechanism with grease. This is probably the last time this mechanism will see lubrication for twenty years and the grease packing will keep dirt and water out of the mechanism.
- Note the connections and then disconnect the five wires from the window electric motor/brake solenoid from the Lucar connectors (two double sleeves, one single sleeve).
- Tilt the window mechanism in the appropriate direction (see section S4 in Workshop manual) and remove the unit from the door. This is a good time to inspect the unit. In particular, check the following:

*Figure 4*



- Wire insulation
- Chain and sprocket wear
- Lubrication
- Operation of brake solenoid. Put a 12 volt, 2 amp source across the two wires from the brake solenoid; you should hear a distinct click indicating that the brake solenoid has lifted the plunger solenoid off of the brake drum. In a previous article I covered the repair and rebuilding of the electric window motor assembly.
- To remove the glass:
  - Slide the window to the highest position and use two wide pieces of masking tape to hold the window in place, see section S4.
  - Remove the two 11/32" bolts holding the bottom, removable portion of the window frame. The bottom portion is removable in the forward channel of a front window and the rear channel of a rear window.
  - The window channel should be held to this removable piece by a split rivet that is about 2" from the bottom; remove this split rivet if it is still in place. You may need to pry the window channel until it pulls right over the rivet head.
  - Remove the masking tape and slide the glass to the bottom. First extract the glass from the side of the window where the frame was removed, then from the other channel and remove the glass through the top opening. Inspect the glass for scratches that are in the visible portion of the window. Scratches are usually caused by a worn, or incorrectly installed, bottom sweeper. If you cannot feel the scratches with your fingernail, you may be able to get the scratches removed by polishing ( non-tinted window).
  - Grab the end of the window channel (pry out of the bottom of the frame 2-3" if necessary) and pull the channel down and out of the window frame. Repeat for the other channel. Remember, there is a split rivet on this side as well.
  - Assuming you have a replacement, pry out the top seal. Note this seal consists of two parts (see Figure 5); the smaller, inner cord, which can have either a circular or triangular cross-section, goes to the window frame side during assembly.
  - The bottom window sweeper is attached to the door with 5 rivets (see Figure 6). Use a 3/16" drill to carefully spin off the tops of the rivets. Remove the flat plate that holds the sweeper. Use a 3/32" (or something slightly smaller than the hole size) drill to spin out the rivet body.
  - Remove the sweep felt from the flat plate by prying open the 9 flat tabs that clamp the felt to the flat plate (see Figure 7). During assembly, note that the tabs clamp the felt by being bent in the direction away from the opening in the flat plate.



*Figure 5*

*continued on page 5*



Figure 6

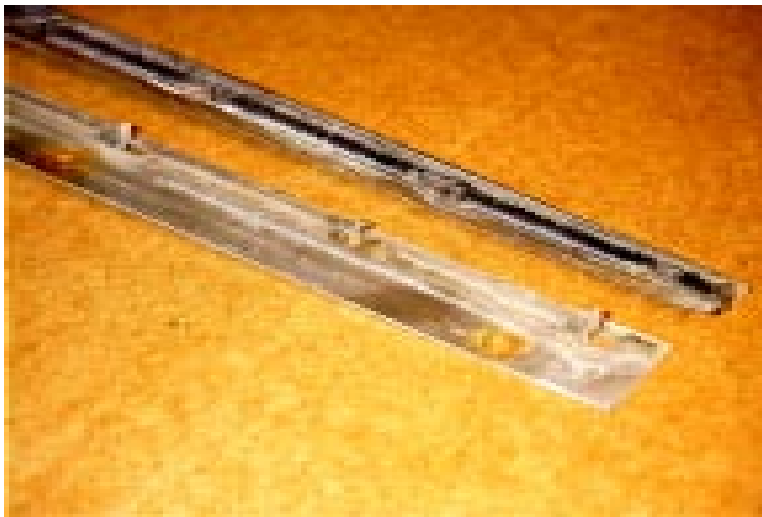


Figure 7

At this point, it is worthwhile to inspect other parts associated with the door that may need attention:

- Chrome on the exterior trim strip, door handle, push-button, door lock (front door). The chrome is frequently damaged by the use of power buffers during paint detailing.
- Door lock function (front door)
- Interior door handle spring return; door opening mechanism (grease with spray grease)

If you intend to replace the window channels without removing the window frame, the disassembly is complete. To reassemble, you will need the following parts for each door:

- Window channels (two)
- Top window seal; note both pieces of the two-piece seal are different between front and rear doors.
- Bottom sweeper strip
- Sweeper strip rivets (five)
- Split rivets (two) for window channels; rivets are not essential, the channel has little tendency to move and you can use adhesive (or a cable tie)

at the bottom of the frame to help “anchor” the channel.

I found that the channel supplied by one well-known vendor was too wide and deep for my Cloud III. The channel was extremely difficult (many hours of effort and several wasted channels) to insert and the resulting installation created a channel so tight that the glass could not be moved up and down without excessive force. Since I only used one shipment, it may have been a problem with that production run. However, I have learned that a well known, repair shop had an identical problem and had to discard the channels from the same vendor. Please call me or e-mail me if you want to find out if your vendor is the vendor that supplied my troublesome channels. The channels that I eventually used were purchased from Hyphen Repairs and worked perfectly and installed easily.

The assembly proceeds as follows:

- Cut the new sweep strip to same length (or slightly shorter) as flat plate. Rubber cutoff wheel does a nice job. Remove burrs at ends with a file or grinder.
- Align the sweep strip with the flat plate. Start on the side opposite to the felt, use the metal tab to scratch an alignment mark in the rubber coating, push a small awl through to the felt side. Then, from the felt side, enlarge the opening with a larger awl or knife. We are trying to ensure that any burrs or raised metal regions are not on the felt side since they might eventually scratch the glass or raise the tab to the point where it scratches the glass. As you fit each tab, remember the chrome strip on the felt goes above the edge of the flat plate so the felt strip lies flat on the plate. Proceed tab by tab along the length to create the openings in the sweep strip.
- Use a pair of vise grips (see Figure 8) to hold the felt strip in place and bend the tabs over, ensuring that the chrome strip is above the edge of the flat plate. Use a punch and hammer to tap the tabs flush. Don’t get carried away, you can easily “over hammer” the tab and dent the aluminum strip.
- Rivet the plate onto the door, ensuring that the rivet grip is such that we can rivet three pieces of metal together - the flat plate, the window frame and the door body.
- Insert the new upper window seal. The smaller cross-section piece fits into the groove in the

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# Post "55"

## *Newport, Rhode Island a photo essay*





### *Keeping it on the Road!*

Robert S. Frielich (LSMH195)

Those of us who are fortunate enough to be the keepers during this phase of our lives of the Rolls-Royce "silver cloud" or Bentley "s" series automobiles are indeed a chosen group.

We have finely engineered vehicles that have reached "old-timer" or senior citizen status. They are unique not only because of age and beauty, but are safe and readily maintained. One of the great advantages is that we can and do keep them running with standard, readily available bits and pieces. Our cars utilize ignition parts that are enumerated listing several different brands and their interchanges.

We have used the items listed on our own cars through the years. We started with our 1962 sc ii, lszd263, in 1965, and our (former) 1959 SCI, lsmh195, in 1969. We still own and use lszd263 on a regular basis.

We list only the "American" 'Delco' brand parts and several other of the 'American' makes which are interchanges. All of which have been used (tested as it were) by us through the years. Spark plugs listed are the only ones with which we were satisfied.

The distributor caps, are the 'top entry' style, that are inexpensive. You can save the old two piece caps for concourse judging.( now by the way supplied as well as "Crewe genuine parts".

#### DISTRIBUTOR CAP NUMBERS :

DELCO	D301
NAPA/ECHLIN	RR95
AMPCO	DR 944
KEM	1477
AUTOLITE	3-213
STANDARD	DR413

#### ROTOR NUMBERS :

D400
RR83
DR937
1270
4-214
DR158

#### SPARK PLUGS:

CHAMPION	RN12Y, RN12YC
BOSCH	WR9DC

#### POINTS (2 SETS REQUIRED, BOTH 'RIGHT HANDED')

DELCO	D110
NAPA/ECHLIN	CS79
AMPCO	DR55
KEM	TC32
STANDARD	DR1823
AUTOLITE	1-214

FIRING ORDER: 1, 4, 2, 6, 3, 5

## SILVER CLOUD II - BENTLEY S2

#### DISTRIBUTOR CAP NUMBERS : ROTOR NUMBERS :

DELCO	D302
NAPA/ECHLIN	RR100
AMPCO	DR968
KEM	1485
STANDARD	D196
AUTOLITE	3-202

D401
RR99
DR939
1487
DR142
4-210

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FEBRUARY 20 & 21

Society Seminar  
in  
Bradenton, Florida

### **Rear Shock Absorbers**

Call Eileen at National (1-800-TRY-RROC) for a registration package.

Post "55" is a periodical of the Silver Cloud & Bentley "S" Society published 4 times per year.

Every effort has been made to publish accurate information, but the Society and its Directors assume no liability for loss or for damage arising from any information contained herein.

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SPARK PLUGS  
 CHAMPION RN14YC, N14Y  
 BOSCH WR9DC

**POINT SETS: 1 SET EACH (LEFT AND RIGHT HANDED)**

DELCO D103P  
 NAPA/ECHLIN CS77  
 AMPCO DR69  
 KEM TC52  
 STANDARD DR1836  
 AUTOLITE 1-203

DELCO D104P  
 NAPA/ECHLIN CS107  
 AMPCO DR60  
 KEM TC53  
 STANDARD DR1837  
 AUTOLITE 1-204

**FIRING ORDER:**

**A 1, B 1, A 4, B 4, B 2, A 3, B 3, A 2**  
**("A" BANK ON YOUR RIGHT WHILE FACING**  
**THE FRONT OF THE VEHICLE.)**

In the highly unlikely event your local parts store doesn't carry any of these, they can check their suppliers' cross-references. All numbers shown here were in all interchange catalogue listings we searched.  
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## ***Bijur- Temporary? Fix***

*Corky Morrison (LSHF-4)*

So your Bijur oiling system has quit. While you are awaiting the completion of a second mortgage on your house to finance the repair? or replacement? Of the faulty thing, here is what you might do.

Disconnect the oil line from under the Bijur pump. Take care that the coupling nut doesn't slide down the oil line into oblivion. Observe the size of the flange on the end of the oil line. Acquire a convent length of rubber hose [preferably neoprene] with an inside diameter that will fit snugly over the flange. Slip the hose over the flange and secure it with a small clamp.

Take a small oil can with a pump action and fill it with the proper weight oil for the Bijur system. [90 weight for Cloud 1] In one hand grasp the hose.

With the oil can in the other hand stick the neck of the can firmly into the open end of the hose.

Pump.

You can now lubricate all those vital spots manually. You could even leave this arrangement in place except when the judges come around. [What do they know if you don't tell them.]

Think of the money you might save.

Did you know?

For SC1

NAPA paper air filter # 2040 is the perfect replacement of the original wire mesh air filter and a lot more efficient too.

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## 2004

To celebrate the Centennial of Rolls meeting Royce, a World Tour has been jointly organized by the four International Rolls-Royce clubs. Seventeen sequential events, with tours through fourteen countries. You can enjoy any or all of them! For dates, routes and details see

[www.rroc.org/worldtour/](http://www.rroc.org/worldtour/)

The finishing line is the RROC National Meet in Monterey CA August 12-16 Pebble Beach weekend, National Meet Aug. 17-21

**Don't wait another hundred years. Sign up today**

# Post “55”

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larger piece and the groove side goes against the top of the window frame.

- Clean the window frame thoroughly; feel the edges of the window frame lips and bottom opening and remove all burrs with a file or, at the bottom, with a Dremel tool. It may be worthwhile to slightly round the bottom edges of the opening of the window frame to ensure that the rubber/cloth of the new channel does not get caught on the edges.
- Cut the window channel to the correct length; use the old channels as the basis and double-check by measuring the window frame. Again, an abrasive cutoff wheel cuts the channel quite nicely.



*figure 8*

- In the channel is fairly tight in the window frame, put a light coating of graphite on the rubber edges of the channel. Do not use oil as it breaks down the “rubber/asphalt” binder; you will see this immediately when you touch the channel and find the black coating on your hand. A soapy water mix can be used but doesn’t seem to work as well as the graphite.
- If you intend to anchor the channel with the split rivet, measure and create the hole in the channel with an awl. Insert the rivet in the channel, recognizing that the rivet will almost be pushed out of the channel as the channel is inserted into the frame. I don’t think that the rivet is required to anchor the channel and bending over the ends of the rivet is a real challenge on some channels. Obviously, if you remove the window frames to install the channels, then the rivets are easy to install.
- I have found it worthwhile to remove the bottom bolt; it bolts the window frame to the door, on the long channel of the frame. On the rear right-side door, this is the channel on the forward

side. The space at the bottom is quite tight and the new channel tends to get hung up or bent by almost anything. The side of the window frame that does not have a removable section is definitely the harder side and hence I would recommend that you do this side first while your energy level is high.

- Put the entire channel into the door opening and bend the channel in a very gentle arc that will allow you to feed the channel into the window frame, starting at the bottom.
- Use a wide blade screwdriver (wrapped in cloth to eliminate scratching) to **slightly** pry open the window frame lips 2-3” above the opening. Insert the channel and push the channel up to the screwdriver tip. Make sure that the channel stays under the lips of the window frame and check to make sure the cloth on the side is not getting caught on a burr. A small light in the bottom of the door makes the checking a bit quicker.
- Raise the screwdriver a few inches and repeat. Continue until the channel reaches the top of the window frame or, if you are using the rivet, until the rivet can be pushed into the hole. Rotate the rivet head, if necessary, gently pry open the space between the door and window frame to get enough room to bend over the ends. If the channel gets hung up during insertion, find the cause rather than increasing the insertion force. Typical causes are the frame “biting” into the thread on the side of the channel or the channel not being under the lips of the window frame. The channel has rubbery corrugations on the bottom and if you withdraw the channel these corrugations will be deformed such that they oppose reinsertion. You will need to smooth the corrugations; heat and pressure from your hands is sufficient to “remold” the corrugations but reinsertion of the channel is always more difficult than starting with a new channel. The use of the screwdriver is not necessary on some window frames, the window channel simply slides snugly into the window frame.
- Bring the window glass down (to the bottom of the door) through the top opening, push the edge of the glass into the long side of the window frame and then into the short side. Slide the glass up and down; the glass should slide smoothly with very little resistance. Slide the glass up to the top, secure the glass in place with masking tape, and then assemble the detachable side of the window frame, bending over the split rivet during the process. Replace the bottom frame bolt if you removed it.
- Reassemble the remaining items in the reverse order. When reinstalling the door assistor it helps to start with longer bolts to draw the assistor to the door. The bolts are standard fine thread bolts and you can obtain bolts that are 1 – 1.5” longer at any hardware store. After the assistor is drawn close to the door, you can replace the longer bolts (one by one) with the original bolts.

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Mark Corigliano, RROC Treasurer, recommended a dues increase at the National Board meeting in Newport. The dues increase is necessary to replenish Club reserves as a result of the recent renovations at HQ and to cover increasing costs to operate the Club. Mark presented several scenarios in which to raise the dues and ultimately the Board passed a \$10 increase to all full dues paying members effective with the 2004 dues collection. Full member dues will be \$60 per year. Junior and Spousal dues will remain unchanged. Beginning with the 2004 dues payment, members will be able to pay using a credit card. Editors may wish to include this information in their next newsletter. When you receive your dues notice please read it carefully and include the appropriate credit card information if you choose this method of payment.

## Springs Seminar, Houston

Les Stallings (LSAE445)

The first words out of Ralph Curzon's mouth were "This isn't rocket science".

And it wasn't. But attending the springs seminar in Houston provided the training needed to remove and replace SAFELY, the front coil springs and the rear leaf springs on our vehicles. Safety is an issue since the springs are mounted in a way that stores a large amount of potential energy, energy that if not released in a controlled manner, could cause bodily harm.



I have pulled a lot of differentials out of American muscle cars over the years and lowering the rear leaf springs was a simple matter. Our Rolls-Royce and Bentley leaf springs are different in that they are preloaded and not in a "relaxed" position, even with the rear wheels off the ground. Spring compressors are required for both the front coil springs and the rear leaf

springs and can be rented from Club Stores.

In typical Texas hospitality, both days began with massive amounts of pastries, coffee, juice and fruit. We quickly began removing the leaf springs from Francis & Pat Bourgeois' Silver Cloud I with the first order of business the removal of the leather gaiters and the installation of the spring compressor. The springs were compressed until almost flat before the bolts



were removed. Four locking tabs (UR.449) are used on the rear spring shackles and are the only consumable parts needed for the rear. The leaf springs came out easily by rotating the springs slightly to clear the rear shackle. Care must be taken not to scar the fuel tank. The springs are heavy and a bit awkward so the two post lift and a few helping hands were useful.

To correct the low rear standing height on the Cloud I, the leaf springs were swapped with a set that had been re-arched to a measurement of 12 \_" from the spring axle pad to a line intersecting the spring eye bolt hole centers. Providing that dimension and your old springs to any competent spring shop should rejuvenate your existing springs at a very reasonable price.



The "new" leaf springs were installed after being greased with waterproof black molybdenum grease and compressed to nearly flat with the spring compressor. Installation was the reverse of the removal process. Freshly cad shackles, hangers and bolts were used, giving a nice clean appearance. The new locking tabs on the spring shackles were pre-bent slightly

before installation to make it easier to bend them against the nuts after they were on the car. We attempted to reinstall the old leather gaiters, but the sewn seams did not hold up. This is frequently the case and the need to purchase new gaiters should be planned.

The front coil springs are very easy with the compression tool available

from Club Stores. Ralph Curzon made sure the compressor was correctly attached to the internal "hook". The springs were compressed to relieve the tension on the lower A-frame plates and the plates were unbolted. The coil springs then were lowered and the spacers above the springs were removed and counted. Rolls-Royce specifies a maximum number of spacers and if more than the maximum are needed to obtain the correct standing

height, new coil springs must be purchased. The good news is that new coil springs are now available and much less than the completely

outrageous prices of years back. Fran and Pat's coil springs went back in with the equivalent of the maximum number of spacers and the front standing height was greatly improved.

Riding in the car after all work was complete

produced a more upright feel with the nose of the car not so high in relation to the boot. The car felt very stable and no doubt the steering geometry was

improved. It was true; this job was not rocket science but the appearance and handling improvements were dramatic. Dale Clark deserves special thanks for coordinating this fine technical seminar. We learned a lot and enjoyed ourselves,

especially Saturday night's dinner at a local British pub. If you get a chance to attend on of the technical seminars, don't pass it up!



## *A Silver Cloud Stereo Installation*

*Thomas Wright (LSMH223)*

Last year I installed a contemporary stereo in my 1959 Silver Cloud (LSMH223). Any such project represents a compromise. What is most important: Sound quality? Features? Appearance? Here are the priorities I used:

1. The installation should be reversible, allowing the car to be returned to stock if desired. Irreversible changes should be small and inconspicuous.
2. My car is very stock. I wanted the interior of the car to appear to be stock with the exception of the stereo's face. No speakers in holes cut in the doors panels!
3. I wanted a stereo that could play CDs of MP3 files as well as music CDs, AM and FM. Since a CD of MP3 files can last up to 10 hours, I could do without a CD changer.
4. The stereo should be able to play at a high volume with good sound quality.
5. Great stereo separation is not very important.
6. I wanted it to be possible to organize the music on MP3 CDs into several virtual albums.

I found an Aiwa "head" (as the unit in the dash is called) to serve as the core of the system. It supports using folders (directories) on MP3 CDs as virtual albums with instant changing between at the touch of a button. It has a large number of settable tuner stations, although I find I listen to CD nearly all the time. An external amp is used for the woofers.



The instrument panel of my Silver Cloud has two grills on either side of the radio's home. In the stock installation, the radio is inside what is essentially a box that is as wide as the ends of the two grills (say two feet), about half a foot tall, and about a foot deep. A single elliptical speaker is mounted on the outside of the back of this box facing forward. The box acts as a speaker enclosure of sorts, and the sound from the front of the speaker comes out through the grills, while the sound from the back of the speaker comes out between the dash and the transmission.

To have a successful stereo installation, some understanding of speaker enclosures is needed. If you set up a speaker on a workbench and wire it to a sound source, you will find you can barely hear it. When the speaker moves, air merely moves in a little arc around the edge of the speaker, the pressure from one side moving around to fill the partial vacuum on the other side. Little sound gets projected towards a listener. So there's the rub: what to do with the sound from the back of the speaker?

The abstract ideal "enclosure" is to put the speaker in a hole in a infinite wall and "discard" the sound from the back side. To approximate this, base reflex systems place the speaker on the surface of a sealed box with sound absorbing material inside. On the other hand, ported systems let the back side sound out through some arrangement of ducting. The stock system is a variant of a ported system. The speaker is mounted on the outside of the enclosure pointing in. The ports are the grills by the radio. The ducting is the whole box. High frequency sounds do not bend around corners very well, so they are lost when





they come off the back of the speaker. Base notes go everywhere easily, so additional base comes out near your feet and permeates the car.

Because base notes go everywhere easily, the stereo effect of base speakers is much smaller than for higher frequencies. Indeed, some very high quality home systems have only one base speaker. Initially I tried to do such an installation, but it ultimately failed due to lack of clearance for the base speaker.

I was trying to position the single base speaker where the stock speaker was, but I could not find a woofer thin enough to fit.

This led to my decision to locate a pair of speakers in the trunk with my stock air conditioner. The sound penetrates the A/C ducting and emanates from the A/C vents to fill the car. This is a base reflex style installation with the entire trunk serving as the enclosure. Both speakers share the same enclosure, so the stereo effect is reduced because sounds from the back of one speaker can travel through the trunk and out through the other speaker. But as was mentioned,

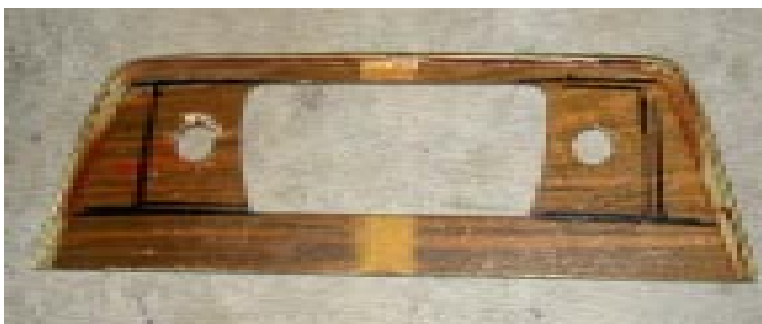


the stereo effect of base notes is minimal to start with because the sounds from the front of each speaker both fill the room.

The small speakers for medium and high frequencies were mounted in ducted mini-enclosures I built from plywood for the sides and pine for the front and braces along the seams of the sides. The duct is having no back to the box. Because the medium and higher frequencies don't bend around corners easily, we don't much of an enclosure.

These speakers are a 3" coaxial midrange and tweeter combined. Each box is secured to the box bottom with one screw through a 1/8" holes I drilled in the box bottom (a tiny irreversible change). These screws are hidden by the dash's pull-out tray.

I constructed an enclosure of sorts for the woofers, but these were to protect the speakers rather than for acoustical purposes. This photo shows the various parts. The black part under the upright, un-installed octagon at the far end of the table is one of the panels I removed and



used as a pattern to make thicker plywood replacements. The two sides are not even close to the identical, so use each to make its own replacement. Not shown is the 1/4 inch wire mesh that was put over the open end of the octagon to protect each speaker from objects in the trunk. There was no need to protect the front of each speaker as they faced the A/C.

The woofers require very fat wires that are available at the car stereo store. With all the routing that must be done, I used 30 feet of this. It is *not* necessary to remove the rear seat back to drill holes for these wires. I mention this because if you have stock A/C, removing and replacing the screws holding in the seat back is a major pain. The best place for the



holes is actually behind the outside top part of each side of the seat back, which are each held in by three screws. The wires can be run along the outside edge of the carpet to get from the dash area to the rear seat area. About three or four inches of wire are visible if you put your head where your heels go when sitting in the rear seat.

I mounted the woofer amplifier to the back of the radio box on a replacement board for the one with the elliptical speaker hole. I chose the smallest amp I could find. Twenty watts is plenty to produce deafening volumes with 8" woofers.

The stock radio mounting plate requires an irreversible change. The is inescapable if CDs are to be inserted into the head. I had this done at a machine shop so it would look professional. The head also has a part that hides tiny gaps.

I wired up the entire system and bench tested it with the woofers mounted in their shipping

*continued on page 14*

## Post “55”

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boxes. It's much easier to verify that understand the instructions for you components and that everything set up correctly.

One wire of the stereo needs to be connected to an always-hot 12 volt source to keep the clock running and the station settings remembered. I wired this to the stock clock. I learned the hard way that the stereo assumes the car supplies a fuse for this wire and that the Silver Cloud will quite happily fry this wire. The insulation wore through in one spot and the wire was dramatically melted and the rest of the insulation burned off in less than a second. So be extra careful with how you route this wire.

The main power to both the head and the amp is fused in each device. I used more of the



heavy gage speaker wire for power. I routed it to the solenoid.

I was actually able to use my digital camera as a tool at this point. By putting my camera where I could not put my eye, I was able to photograph where I should attach the wires. Once I understood things, I was able to do it by feel. This saved me removing and reinstalling unrelated parts just to be able to see what I was doing.

The results have been really pleasing. I have a CD of ten or so entire musicals from the 1950s that I play when I take my 84-year-old mother out to lunch. Each musical is in a folder on the CD and I can easily select a different musical each trip. Another CD has a folder of dance tunes to get me and my swing dance partner “in the mood” when going dancing to old rock ‘n’ roll, and a folder of mellower tunes for driving home.

Every system has a weakest link. In mine it is the woofers. If I really crank up the volume, the amp can over-drive the woofers. The original woofer selection was based on getting a low profile for the abandoned one-woofer design. Perhaps a pair of normal good woofers would fix this.

The system came with a remote control for the steering wheel, but I felt it interfered with my safely driving the car, so I removed it. The picture of the remote control also shows the head's blank face appearance when the ignition is turned off.

Another problem is that the CDs can skip if I hit potholes and such. I may reinstall the head with some felt washers so vibrations aren't so completely transferred to the head.

Overall, I'm pleased with the results and wouldn't change any of the major design decisions I made.



*continued from page 1*

couldn't figure out how to loosen the rest of the panel without destroying it.

Off to my experts. [Automotive Restorations, Stratford Ct.] In fifteen minutes panel off, door opened, door fixed.

Problem? I quote from the shop manual. Chapter S page 6.

Striker Plate——”Lubricate the spring for the dovetail wedge with “Moylton” 265 grease”.

The dovetail wedge is located on the bottom of the striker plate. It moves back and forth as one opens and closes the door. No grease, no movement, no door opening.

Jeez Louise, how many niggling things do we have to cope with to keep our cars proceeding?



Outer Banks. STRIPED COLLAR AND CUFFS SPORT SHIRT.  
 100% Cotton pique tubular sport shirt with striped collar and cuffs. Contrasting 3-button clean finished placket with pearlized button. Taped collar. Double-needle stitched hemmed bottom. Black with red accents.  
 Adult: S, M, L, XL, 2X, 3X  
 \$38.00

# Society Store

Three Rivers. CLASSIC LONG SLEEVE DENIM SHIRT.  
 7.25oz. 100% cotton long sleeve denim shirt with button-down collar. Left chest pocket with button. Two-button cuffs and single-button sleeve plackets. wood-tone buttons. Flat yoke back. Double-needle stitched. Generous cut.  
 Adult: S, M, L, XL, 2X  
 \$35.00



SILVER CLOUD SOCIETY name badge. Brushed silver with black letters and a magnetic back. No more holes in your clothing. \$10.00 including shipping.



Outer Banks 5011. COTTON PIQUE SPORT SHIRT.  
 6.8oz, 100% combed cotton pique side-seamed sport shirt. Taped welt collar and welt cuffs. Two-button clean-finished placket with wood-tone buttons. Safety and top stitched shoulders. Double-needle stitched hemmed bottom with side vents and dropped tail.  
 Adult S, M, L, XL, 2X, 3X, 4X, 5X  
 \$30.00



TOTE BAG. 600-denier polyester tote extremely durable and water-resistant with inside PVC coating. One outside pocket, contrasting color bottom and extra long self-fabric handles, reinforced seams and stress points. Dimensions: 23.5" x 15.5" x 6". White with Royal accents.  
 \$20.00

STRAW HAT.  
 Gamblers shape natural seagrass straw hat. Elastic sweatband.  
 One size fits most.  
 \$20.00



## ORDER FORM - page 1

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_ Zip: \_\_\_\_\_  
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 Telephone: \_\_\_\_\_  
 e-mail: \_\_\_\_\_

Postage calculation:  
 (not including badge)

Order total \$0 - \$25	\$5.00
\$25.01 - \$49.99	\$8.00
\$50.00 - \$74.99	\$12.00
\$75.0 +	\$15.00

For international orders, please add \$8.00 to each order.

**Please send your order, with a check in US funds, made payable to the Silver Cloud Society to:**

**Win Graphics  
 617 Malloy Lane  
 Ovilla, TX 75154  
 USA**

# Post "55"

Jonathan Corey 603A. NEEDLE-OUT PIQUE SPORT SHIRT WITH JACQUARD RIM. 6.5oz., 100% combed cotton sport shirt needle-out pique sport design with triangle jacquard collar and welt cuffs. Four-button clean-finished placket with edge stitching, back stitching, and reinforced box. Taped collar and single-needle safety stitch shoulder seams. Single-needle top stitch arm holes, two inch single-needle side vents and drop tail. Woodtone buttons. Adult M, L, XL, 2X \$38.00



Hanes ComfortBlend 7.8oz. 50/50 HOODED PULLOVER SWEATSHIRT. full cut hood with matching tipped draw cord. Front pouch pocket. Spandex-reinforced cuffs and waistband. Coverseamed armholes and waistband. Adult: M, L, XL, 2X Ash, Red, White, Black \$28.00

Willow Pointe. LADIES' KEYHOLE COLLAR SPORTSHIRT. 100% cotton, washed, double-softened and tumble dried mesh, tailored self collar, keyhole neck with one button loop closure, matching button, hemmed sleeves, hemmed bottom with side vents, top-stitched armholes. Women's sizes, adult: S, M, L, XL, XXL White, Red \$28.00



WALNUT BOX. A beautiful 6.5" x 3.5" solid wood box engraved with the Silver Cloud and Bentley S society logo. \$15.00

## Website Update

Michael Kan (SAS69)

Over the past couple of months many of our members have submitted one or more photographs of their Cloud, Phantom V, or Bentley S series cars.

We are still working on getting the members-only section fully operational. The area is currently being tested. At the same time, one of our Houston-area members, Clem Barrere (LSPA34) has spent countless hours cataloging all articles published on our cars by either the RROC, RREC, or the Society and formatting them into PDF files for the members-only area. Permission has already been granted by all publishers to have these articles placed online for the benefit of our members.

Once the area becomes "live", we will require each member e-mail the webmaster and request permission to have access to the area. Access will cease once membership in the Society is dropped.

If you have one or more photos of your PMC, please e-mail them to the [webmaster@cloudsociety.org](mailto:webmaster@cloudsociety.org) for publication. If you'd like to write an article on your PMC, please submit send it long, we will keep on posting all text as long as we have space left on the (large!) server.

Hard copy photos can be sent to me as well, but it might take some time to get them back to you as I travel frequently, and usually forge the photos on the scanner for some time!

Safe motoring!

1. Outer Banks Sport shirt	Size: _____	Qty: _____	Price: \$38	Total _____
2. Three-Rivers Denim shirt	Size: _____	Qty: _____	Price: \$35	Total _____
3. Outer Banks 5011 shirt	Size: _____	Qty: _____	Price: \$30	Total _____
4. Jonathan Corey shirt	Size: _____	Qty: _____	Price: \$38	Total _____
5. Hanes Sweatshirt	Size: _____ Color: _____	Qty: _____	Price: \$28	Total _____
6. Willow Pointe Ladies' shirt	Size: _____ Color: _____	Qty: _____	Price: \$28	Total _____
7. Hat		Qty: _____	Price: \$20	Total _____
8. Tote Bag		Qty: _____	Price: \$20	Total: _____
9. Wooden Box		Qty: _____	Price: \$15	Total _____
				Sub Total _____

PLEASE USE BLOCK LETTERS!

Badge 1 Name: \_\_\_\_\_  
 Badge 2 Name: \_\_\_\_\_  
 Badge 3 Name: \_\_\_\_\_

Shipping from other side \_\_\_\_\_  
 \$10 \_\_\_\_\_  
 \$10 \_\_\_\_\_  
 \$10 \_\_\_\_\_

Grand total: \$ \_\_\_\_\_