



the fifth wheel

FEBRUARY 2012

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Inside this issue

Transmission Linkage Lowdown! Pg. 1

Come to Our Next Meeting! Pg. 1

Adjust Late Shifter Tech Talk Pg. 2

Radical Shift Linkage Modifications Pg. 4

LVCC January Meeting Notes Pg. 6

LVCC Classified Ads Pg. 7

LVCC Merchandise For Sale Pg. 7

LVCC Calendar Of Events Pg. 8

LVCC Club Officer Contact Info Pg. 8

I Love My Corvair!



TRANSMISSION LINKAGE LOWDOWN!

This issue features two articles regarding shift linkages for Corvairs equipped with manual transmissions.

The first article, published here by permission of the author, Jim Pittman of New Mexico, is one of the very few articles that provides instructions for tuning-up the entire shift linkage, from the knob on the handle all the way back to the transmission input shaft.

And it deals with the late-series Corvair linkage, which is more trouble-prone than the simpler early-series Corvair linkage. Sure, everybody knows that late-series Corvairs need new shift tube bushings now and then, but there is so much more!

The second article, written by our very own staff, is aimed for those of you who are compelled to improve, modify, or otherwise replace what the engineers at Chevrolet hath wrought. In other words, it provides some ideas for replacing your linkage with something entirely different.

And of course, like all issues of the Fifth Wheel, this one presents the latest news from Chapter members. Enjoy!

COME TO OUR NEXT MEETING!

Celebrate President's Day! Come to our next club meeting, scheduled for Wednesday, February 22, 2012 at the LANTA center in Allentown.



The Fifth Wheel is published monthly by the Lehigh Valley Corvair Club (LVCC), Inc. We accept articles of interest to Corvair owners for publication. Classified advertising of interest to Corvair owners is available free of charge to all persons. Commercial advertising is also available on a fee basis. Please contact our newsletter editors, Allan Lacki and Wesley Weiss, for details.

LVCC is one of the many regional chapters of the Corvair Society of America (CORSA), a non-profit organization that was incorporated to satisfy the common needs of individuals interested in the preservation, restoration, and operation of the Chevrolet Corvair. LVCC caters to Corvair people who live in and around the Lehigh Valley Region of eastern Pennsylvania. This is a very special car club! LVCC dues are \$10 a year for CORSA members or \$15 a year for non-CORSA members.

ADJUST LATE SHIFTER

Tech Talk by Jim Pittman

Numbers in the text of this article refer to numbers shown in the photo and the 1965-1969 shift linkage drawing below.

Some of us like a shifter that is precise, smooth and effortless. The typical Corvair shifter is sloppy, crunchy and difficult. It's not just because of the location of the transmission in the back and the shifter in front. More than likely, your late shifter just needs two new parts and a few simple adjustments to work much better.

Bronze bushings are easy to install and can make the shifter action more precise and positive. Other new and remanufactured parts are readily available from Clark's.

Your first chore is to look at your shifter, compare it to the drawing, and understand how the shift mechanism works. If you are lucky, you may have only minor problems and you won't

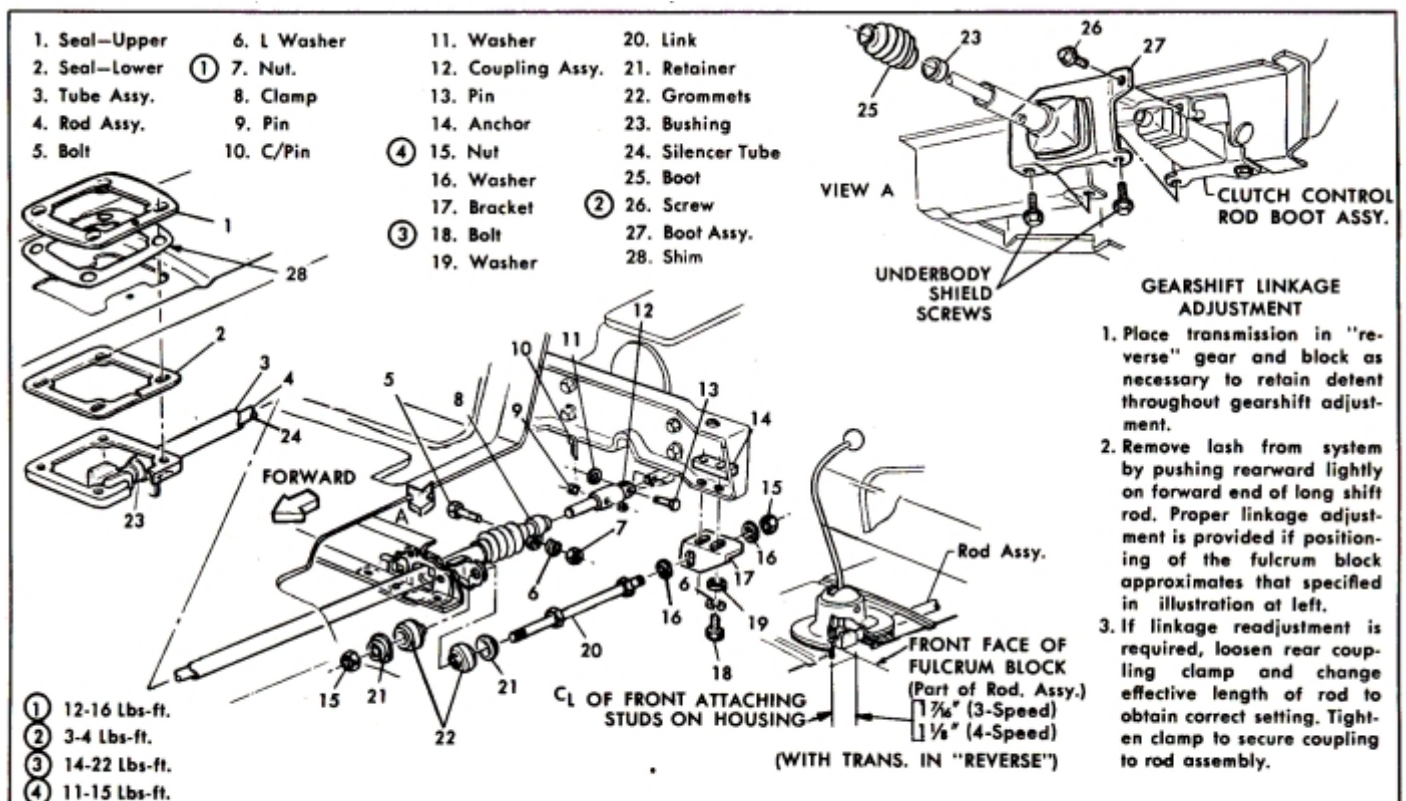
have to disassemble very much to make a big improvement. Count on needing new shift rod bushings and a new coupling pin, though. Here is a full list of things that could go wrong.

- * 1. The pins holding the shifter in the shifter base (29) could be worn. Tapered bearings can be used for new pins. The shifter base must be disassembled, worn pins removed and new pins pressed in.
- * 2. The lubrication inside the shifter base (29) could be missing, hardened or gummy, making for "stiff" operation.
- * 3. The shifter base could be too loose or too tight where it bolts through shims (1 and 2) through the car's floor pan to the head of the shifter tube (3), or it could have dried-out or gummy lubrication. If too tight, the shifter tube head won't be able to slide along the car's floor pan as the engine/transaxle moves in its rubber mounts under normal operation.



Disassembled shifter base (29). The two pins in the center may be worn.

- * 4. The lubricant in the shifter ball-to-cup mechanism could be missing, solidified or gummy, making for "stiff" operation.
- * 5. The front and rear bushings (23) could be missing from the shifter tube, allowing the inner rod to move sloppily and to rattle.
- * 6. The shifter tube (3) could be bent from previous encounters with stumps or boulders, making it hard for the in-



1965-69 Corvair Shift Linkage. Source: 1966 Corvair Shop Manual Supplement Figure 13A.

(Continued from page 2)
ner rod (4) to slide or rotate.

* 7. The cardboard liner (24) between the outer shift tube (3) and the inner rod (4) could be full of rust or wet and distorted, causing excessive friction when shifting.

* 8. The stabilizer rod (20) could be adjusted too high, too low or too far sideways, putting excess stress on the inner rod and the rear bushing, thereby causing excess friction.

* 9. The coupling pin (13) or the holes in the coupler (12) could be worn, leading to sloppiness. The hole in the transmission pin is probably okay.

* 10. The rubber insert inside the coupler (12) could be dried out and slipping, allowing the inner shaft to rotate relative to the coupler.

* 11. The coupler (12) could be fastened to the inner tube (4) too close or

too far from the transmission, making the shift lever lean too far forward or too far backward from the driver.

Start by putting your car up on four secure jack stands. Take off the left rear wheel for more working space if you want but it's not necessary. Crawl underneath, take off the belly pans and look at the mechanisms, front and rear. It helps greatly to have an assistant who can sit in the driver's seat, put in the clutch, and slowly shift through all the gears while you watch the movements of the parts below.

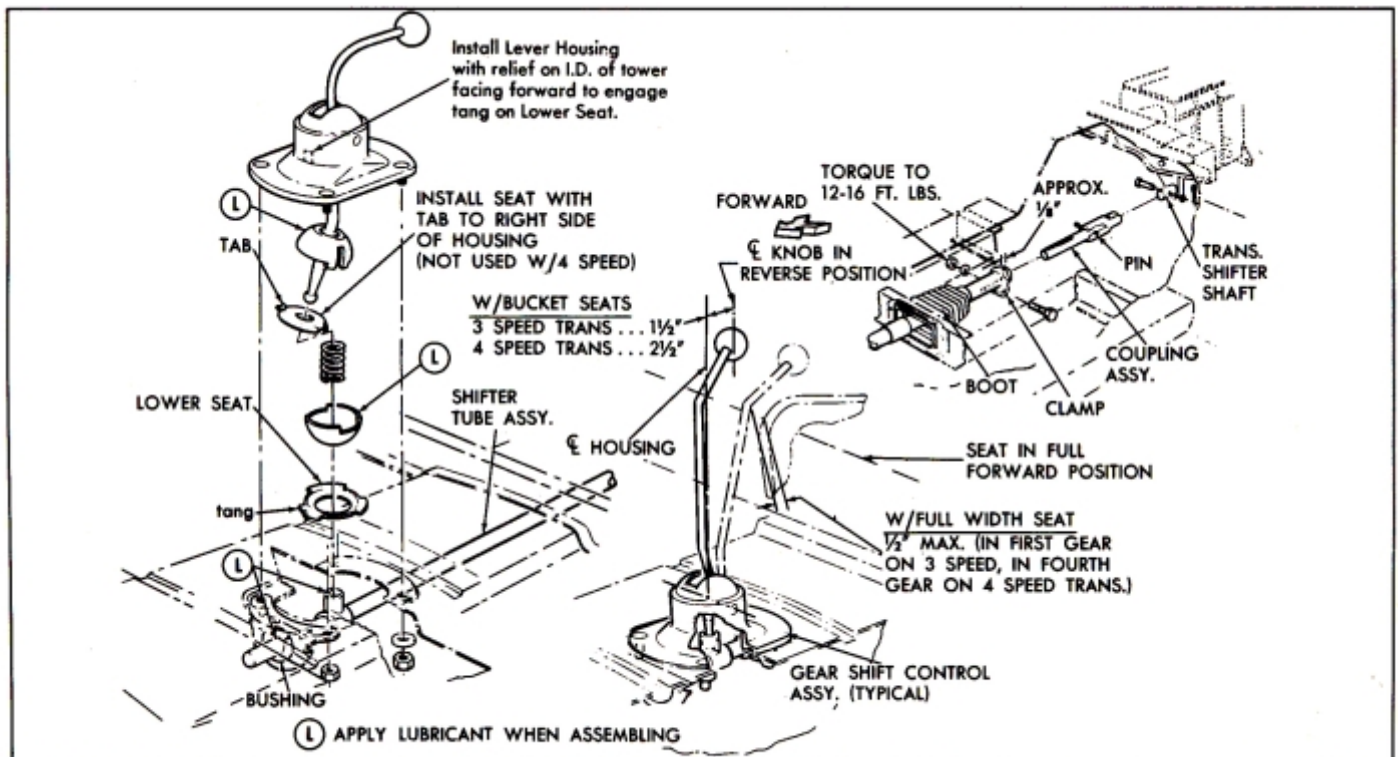
Once you have examined your shifter mechanism you may be able to guess what parts and adjustments are needed. If your car already has bronze bushings, you can probably make an improvement by just adjusting the coupler. If your bushings are shot, then order some new parts, including a Clark's bronze bushing kit, new plastic shifter base (1), rubber bushings for the stabilizer rod (20), and new rubber boots. Budget

time for disassembly, cleaning, reassembly and alignment

With new parts in hand, start by taking the belly pans off the car, then remove the shift tube from the car. Remove the coupler from the inner rod, then pull the inner rod out of the shifter tube. Remove and discard the inner cardboard tube.

Install bronze bushings according to Clark's instructions, making sure they don't bind the inner rod. Careful filing and crocus cloth are good for this. (If you are adept at brazing, you may prefer to braze them in place instead of drilling and tapping holes for the eight tiny screws.) Remove rust, then paint the shifter tube and inner rod as needed.

Clean all the moving parts and put new grease where needed. Check the condition and lubrication of the floor shims top and bottom, then loosely install the shifter base with shims through the floor to the shifter tube head. Install



1961-1964 Corvair passenger car shift linkage. So much simpler than the 1965-69 linkage! No shifter base shims, no shifter tube, no shifter tube bushings, no stabilizer rod. But it still has that pesky coupling assembly at the rear, so you early Corvair enthusiasts better watch out, too! 1964 Corvair Shop Manual.

(Continued from page 3)

the shifter tube stabilizer rod loosely at the rear. Back at the front, tighten the shifter base just snug enough that it won't rock sloppily side-to-side, but loose enough that it can slide front-to-back along the floor pan.

Gradually tighten up the nuts holding the stabilizer rod bushings so the stabilizer rod holds the coupler in approximate alignment with the shifter pin. Then, install the coupler's pin to the transmission's shaft. Go back to the driver's seat and try moving the shift lever to see if you can engage all the gears. Leave the shift lever in first gear for a 4-speed or reverse gear for a 3-speed.

Go below and pull out the pin from the coupler. Does the coupler now want to move up or down or sideways? If so, adjust the stabilizer rod nuts and bushings so the stabilizer rod holds the coupler so that it's looking squarely at the pin. Tighten everything up securely. Put in the pin, a washer and a cotter pin. Go up and check shifter action.

For those lucky enough to have shifters with all parts in good shape, this one

adjustment could make an enormous difference in shifter feel.

The position of the shift lever forward-to-back relative to the driver's position can be adjusted over a certain range. Loosen the clamp holding the coupler to the inner tube and adjust the front-to-back position of the lever to suit, then tighten the clamp.

It's a good final touch to install all new rubber boots to keep some of the road dust out of the moving parts.

Now, if you are confident of your work, install the belly pans and go take your car for a test ride. What you are aiming for is, the shift knob will easily and positively move the mechanism to engage every gear, with minimum effort but with very little slop and looseness. New bronze bushings and a new coupling pin will ensure part of this, and careful adjustment will take care of the rest.

A drawing of the early shift mechanism is included for comparison. Some parts are similar to the late models but some are different.

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RADICAL SHIFT LINKAGE MODIFICATIONS!

By Al Lacki

'Had enough of your pesky shift rod coupler? You know, that doo-dad that connects the shift rod to the selector shaft stub that sticks out of your transmission? The one with the wiggly rubber insert and the wobbly little pin that keeps you from finding reverse gear?

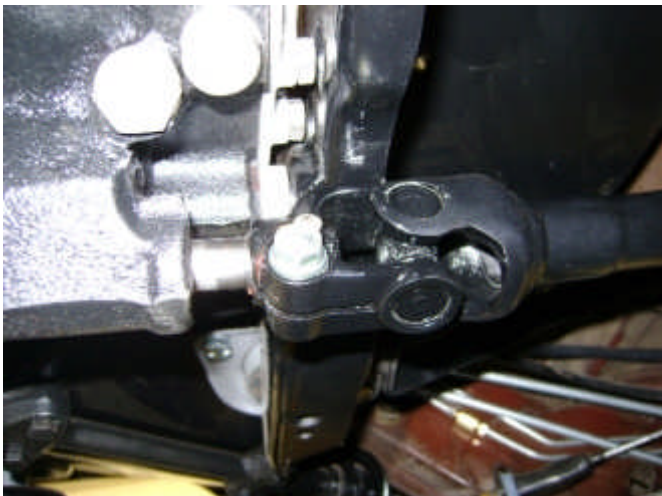
And what about that shift tower? You know, that pot metal thing at the base of your shift lever? Is it bound up with silica from that time you sand blasted your floor pans?

Maybe it's time for a change. In fact, maybe it's time to replace the entire shift linkage, from the shift knob all the way back to the gearbox!

While some Corvair enthusiasts wish to rebuild and preserve, others want to remove and replace. What follows on these pages is a little pictorial article for the latter type of person.

As shown in the photos, Corvair own-

(Continued on page 6)



Getting rid of the coupler pin, John Wyma of Sparta, Michigan replaced the stock shift coupler entirely with this high-precision steering U-joint on his Rampside. Johnnie wrote, "Every Corvair I have owned, has had a sloppy connection between the shift rod coupler and the transmission selector rod. Even with new pin and coupler, the fit is a little loose. And the coupler only allows misalignment in one axis. So I decided to address both issues. I have utilized a universal joint to allow two axis misalignment and a collet type locking system. The stock coupler pin was retained as a failsafe, should the collet loosen."

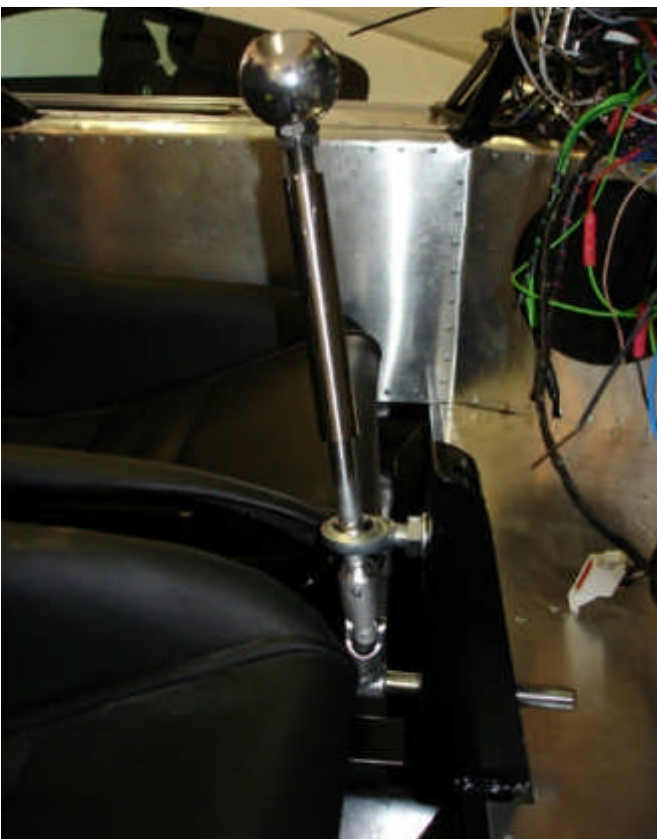


The Ultimate Corvair Shifter Assembly?

Kevin Nash wrote, "This is the shifter that's in my early Spyder. I designed and made this myself, and have put approximately 50,000 miles on it. The handle is made from titanium, the gimbal and housing are machined from aluminum. There's absolutely ZERO false motion between the handle and the housing and feels frictionless compared to the stock unit."



A German company named CAE Shifting Technology offers ultra-precision shifter kits. Here is their Volkswagen Beetle Ultra Shifter.



No, this isn't for a Corvair, either! It's the interior of a very fast kit car offered by Ultima Sports Ltd. But it shows how a shifter assembly like Kevin's can be fabricated. Note the heim joint, universal joint and rocker. The geometry is really quite simple. By the way, power in this beast is provided by a mid-mounted Chevrolet V8 engine mated to a Porsche transaxle.



(Continued from page 4)

ers aren't the only people who obsess about their shift linkages. And there are plenty of aftermarket suppliers who cater to their need for precise shifting action. Companies like Hurst still focus on shifters for the muscle car crowd, but there are others, such as Brandwood, CAE, Fortin Racing, Jamar, and even EMPI, who specialize in shifters for kit cars, sand rails and road racing.

We may occasionally cuss the late series Corvair shift linkage because of the little parts that wear out, like the pins, shims, and bushings. But the engineers at Chevrolet designed it that way for a reason: to accommodate flex in the body structure and to isolate the shift tower from power-train vibration. And this remains a goal for linkage designers today. Now, engineers are meeting this goal using cable linkages instead of tube linkages for a number of good reasons:

- Cables do not require a straight line between the shift handle location and the nose of the transaxle,
- The cable linkage is a self-contained assembly. The transaxle can be shifted entirely independent of chassis "twist".

- They are adjustable at the transaxle for fine tuning.
- The cable concept isolates shifting operation from engine vibration and chassis twist.

Well, the technology has changed, but the goals remain the same. Maybe those engineers at Chevrolet weren't so dumb after all!

JANUARY MEETING NOTES

Dick Weidner read the minutes and treasury report from our previous meeting which was held way back on October 26. The club's account balance as of that date was \$1,424.82.

Having received no other nominees for office, our current President, Vice President, and Secretary-Treasurer agreed to continue to serve in their offices through 2012.

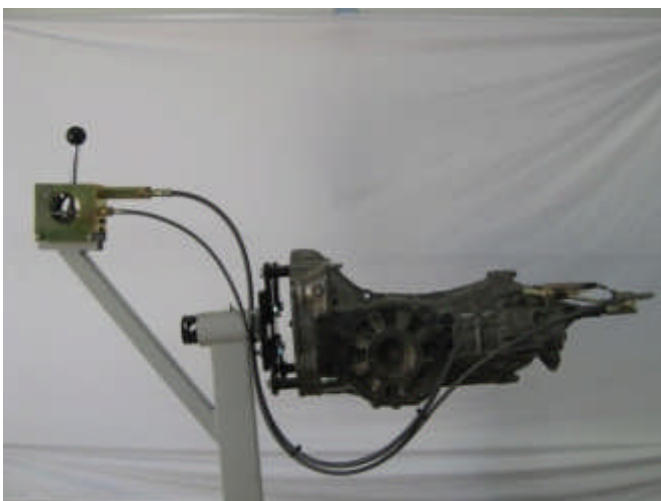
Joe and Tim Turner recently bought a nice 1965 Corvair Corsa convertible from a seller located in Lancaster. Joe reported that the body is in good condition, with no visible rust. The car currently has no engine, but Joe and Tim received three engines as part of the deal. One of them is a turbo and the

other is a 140. Joe and Tim are currently planning to refurbish the turbo engine and install it in the Corsa.

Dick Weidner talked about his experience in using Al Lacki's carburetor balancing tool. Dick found that the carbs on his '64 Monza coupe were out of balance because of play in the carb cross-shaft. He showed us how he remedied the problem by installing new bushings in the shaft. Dick reported that, after he installed the refurbished shaft and balanced the carbs, the Monza has much more power than before!

Dennis Stamm exhibited a number of Corvair repair tools he fabricated in a machine shop a few years ago. These included sockets for removing instrument panel bezels for the ignition switch, windshield wiper switch, and headlight switch. Dennis' collection also includes a special tool for repacking front wheel bearings and a special wrench for adjusting the fan belt pulley.

Randy Kohler visited the America on Wheels Museum in Allentown. Larry Asheuer's lovely 1960 Monza Coupe remains on display there in the museum's 100th Anniversary of Chevrolet exhibit. Randy also noted that the museum's collection includes a pristine rear-engine 1948 Tucker Topedo, too!



This Brandwood C-S VT-1 cable-operated shift linkage fits a 4-speed manual transaxles for a variety of rear-engine Volkswagens. The kit is complete with chrome shift handle, yellow zinc shifter box, cables and chrome transaxle bracket.



Fortin Racing, Inc. manufacturers a full line of shift linkage components, including shifter assemblies, shift rods, sealed U-joints, and the pillow-block assembly pictured above, which contains a low-friction linear-motion ball-bearing.

LVCC Classified Ads!

WANTED: 2 bucket seats & 1 rear seat for 1965 Corvair Convertible. White upholstery preferred, but general condition is important. Contact Joe Turner. Home phone: 610-285-2006. Cell phone: 973-722-5714. Email: jptc at ptd dot net

WANTED: Parade-quality Corvair. Convertible or two-door coupe. Powerglide automatic. I am looking for a Corvair, automatic, convertible if possible. I want a car that I can drive to car shows, parades, etc. Although I'd prefer a convertible, a nice two door coupe would be OK, but I'm not looking for a four doors model. I have funds available and I am willing to negotiate price for the right car. If you have any leads please contact me. Linda Lerch, Lehigh Valley. (610) 791-3642. Email linda.conradlerch at rcn dot com

FOR SALE: 1965 Corvair Corsa. Project car. This Corsa has a 140 engine which was resealed, telescopic steering column, AM/FM radio, new clutch, flywheel, and pressure plate. It also has all new bushings in rear suspension, new coil springs and new shocks in the rear. In addition, the front cross-member was rebuilt with all new bushings and ball joints. Needs very little body work, but needs paint and much tender loving care. \$2000.00 as-is. Dennis Stamm, Mohrsville. (610) 926-4723. Email dmstamm at comcast dot com



FOR SALE: 1963 Corvair Monza M900 Coupe. 102 hp. Unrestored survivor. Runs perfectly. Never in a body shop or driven in snow. All service records since new. 50,000 miles. Needs nothing. Tinted glass. Day-night mirror. Pushbutton AM radio. Factory seat belts. Asking \$7,000 or serious offers only. Dave Riddle. (610) 264-7155. Dariddle at verizon dot net

Next Membership Meeting: Wednesday, February 22, 2012

LVCC Merchandise for Sale!



LVCC license plates and hat pins: \$3.00 each. LVCC T-Shirts: \$6.00 each.
Call or email LVCC Secretary/Treasurer Richard Weidner at 610) 502-1414 rcwvair@rcn.com

LVCC Calendar of Events!

Wednesday, February 22, 2012 :::: LVCC Membership Meeting.

Time 7:30 PM. Place: LANTA Community Center, 2nd Floor Meeting Room, 1060 Lehigh Street, Allentown , PA 18103. All LVCC members are encouraged to attend. Feel free to bring a guest.

Saturday and Sunday, February 18-19, 2012 :::: Motorama Show.

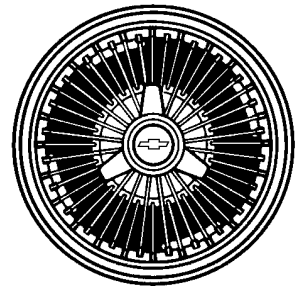
Motorama Rod, Custom, and Tuner Car Show at the Harrisburg Farm Show Complex. Rods, Customs, Race Cars, Vendors. And various race events going on in the arenas like Motocross, Go Karts, something for everyone. 2300 N. Cameron Street, Harrisburg, PA 17110. Saturday 2/18/2012 from 9AM to 10PM & Sunday 2/19/2012 from 9AM to 5PM. <http://www.motoramaevents.com/>

Saturday, February 25, 2012 :::: Annual NJACE Parts Auction.

The annual midwinter Parts Auction conducted by the NJ Association of Corvair Enthusiasts is scheduled for Saturday, February 25, 2012, indoors at Ashley's Auto Body in Flanders, NJ. Free pizza-and-soft-drinks lunch is included! The location is 274 Hillside Avenue, Flanders, NJ - the same location as in prior years. If you need directions, send an email to Vairtec (at) comcast (dot) net. Bidding begins at 11:00 AM. But we open the doors at 9:30 AM, to allow time for sellers to tag and display parts they are offering, and to bidders to peruse the parts being offered. We ask that items being offered be limited to Corvair parts or Corvair-related items, only. The club will collect a 10% commission on all sales. In other words, sellers receive 90% of the sale price. Due to the nature of how the auction operates, it is not possible to process any buyers or sellers until the auction is completed. We begin the bidding at 11 AM, take a lunch break at 12:30, resume the bidding at 1 PM, and finish up typically around 2:30 PM. Only at that time can we tally the sales, collect from the buyers, and pay the sellers. <http://www.corvair.org/chapters/njace/>

Sunday, March 4, 2012 :::: Ontelaunee Region AACA Swap Meet.

Hamburg, PA - 45th Annual Swap Meet & Car Corral at the Hamburg Fire Co. Field House in the rear off Pine Street 127 South 4th Street. Sponsored by the Ontelaunee Region of the AACA. Directions: East & West I 78 to exit 10 (4th St Exit), go South on 4th Street to 2nd traffic light (Pine St) turn left, field house 1 block on right North Rte 61 to 4th street exit go to second red light turn right field house 1 block on right. Set up at 7:00 am, antique, classic & street rods welcome, outside vendors, car corral and parking on fully paved lot, we have increased our parking with shuttle service, refreshments available, \$20.00 inside flea market space 10x8, \$15 outside flea market space 25x17, \$5 car corral each vehicle, 8 foot tables available \$2 each, free parking, \$2 admission children 12 and under are free. Lester Manwiller e-mail: lhedgehog1@aol.com



Friday-Sunday, March 23-25, 2012 :::: North East Rod & Custom Nationals Car Show.

Advertised as the premier indoor rod, custom & classic car, and motorcycle show in the Philadelphia area. Located at the Greater Philadelphia Expo Center, in Oaks, Pa. 1601 Egypt Road Phoenixville, PA 19460 (Upper Providence Township). <http://www.northeastcustomcarshow.com/>

July 25 2012 to July 28 2012 :::: 2012 CORSA Convention.

The Northeast Corvair Council (NECC), of which LVCC is a part, has been awarded the 2012 international convention for the Corvair Society of America (CORSA), to take place in Sturbridge, Massachusetts. The dates are July 25 2012 thru July 28 2012. Plan on being in colonial Sturbridge, Massachusetts, in July of 2012! See the convention website for details: <http://www.corvair.org/chapters/necc/convention>



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