

Newsletter of Lehigh Valley Corvair Club Inc. (LVCC)

the fifth wheel

Winner of the 2014 CORSA Tony Fiore Newsletter Competition

SEPTEMBER 2016

Inside this issue Next LVCC Meeting: 1 Wednesday, Sept 28 Blower Fans for 2 Air-Cooled Engines Tubeaxial & Vaneaxial 3 Blowers Revealed Centrifugal Blower Blade 3 Designs Figures from the 1966 5 Ludecke Technical Paper Come Out to CPCC's 6 Corvair Day Dues Are Due 6 Pay-Up! Duryea Day 6 Report Air Cooled Engine Blow-7 ers Photo Gallery Corvairs at Durvea Day 8 Photo Gallery Kachoomber Salad 9 Recipe Car Events In and 10 Around Lehigh Valley LVCC Classified Ads 12 Items for Sale Welcome New Member 12 Ed Prescott! LVCC Officer Contact 12 Information

HTTP://WWW.CORVAIR.ORG/CHAPTERS/LVCC

ESTABLISHED 1976



Next LVCC Meeting: Wednesday, Sept 28

Time 7:30 PM. Place: Lehigh and Northampton Transportation Authority Headquarters (LANta), 2nd Floor Meeting Room, 1060 Lehigh Street, Allentown, PA 18103. Latitude : 40.587607 | Longitude : -75.474405. Bring a guest!

Don't get locked out. If you arrive late, the main door of the LANta office building may be locked. This is for security purposes. But the facility is open around the clock, so ask one of the garage employees to direct you to the second floor.



The Fifth Wheel is published monthly by Lehigh Valley Corvair Club Inc. (LVCC). 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. For details, email our newsletter editor, Allan Lacki, redbat01@verizon.net.

Blower Fans for Air Cooled Engines

Fan, Blower, Compressor or What?

Professional societies like the American Society of Mechanical Engineers (ASME) make distinctions between fans, blowers and compressors. Of course, not everybody knows or even cares about ASME. And so, the terms are often used interchangeably.

For example, in Germany, a supercharger is often called a "compressor", whereas in the United States, a supercharger is often called a "blower". In the gas turbine industry, a "fan" is the rotating part of the "compressor" that feeds air to the combustor buckets. In the HVAC industry, the "fan" is the rotating part of a "blower"; the entire assembly consisting of the "fan" and its housing. So, the nomenclature varies, depending on the background of the person doing the talking.

Generally speaking, though, a fan is considered a device for moving air against little or no back pressure. A blower pushes air against a noticeable back pressure. And a compressor pushes air against a back pressure so high that a given mass of air is measureably condensed into a smaller volume.

A considerable amount of power is required to push air around and through the cylinders and cooling fins of an aircooled engine, but not so much that we need to compress the cooling air. So for purposes of this article, we'll refer to the Corvair engine cooling fan as a "blower".

Types of Blowers.

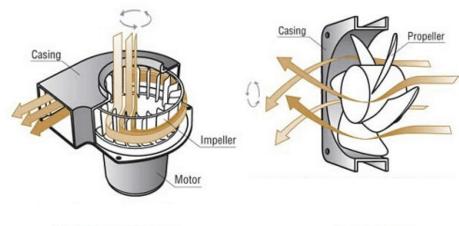
There are two basic types of blowers: axial and centrifugal. Both of them use impellers rotating on an axle to push the air along.

With an axial blower, the air enters and exits in the same direction, parallel to the axis (axle) of the rotating impeller. The impeller, which is basically a propeller, simply pushes the air along in a forward direction.

With a centrifugal blower, the air enters parallel to the impeller's axis but exits radially, 90 degrees from the axis. In other words, the impeller is a slinger.

Each of these two kinds of blowers has its own advantages and disadvantages. In its simplest form, an axial blower is better for pushing large volumes of air against low back pressure. Conversely, a centrifugal blower is usually better for pushing smaller volumes of air against higher back pressure.

But these are just generalizations, for there are many variations in design. Corvairs and Volkswagen Beetles, for



Centrifugal Blower

example, use centrifugal blowers. Aircooled Porsche 911s use axial blowers. So, either can be made to perform just fine for air cooled engines.

Axial Blower Variations

There are two variations of axial blowers: tube-axial and vane-axial. Tubeaxial fans have a multi-blade impeller located inside a cylindrical housing with close clearances between the blade tips and the housing to improve airflow efficiency. Vane-axial blowers share this common element, but also have static guide vanes. The guide vanes do not rotate with the impeller, but they improve efficiency further by directing and straightening the flow.

Centrifugal Blower Variations

Now let's talk about centrifugal blowers. There are at least eight different kinds of centrifugal blowers based on impeller design. They are:

- 1. Shrouded Radial Blade
- 2. Open Radial Blade
- 3. Open Paddle Wheel
- 4. Backward Inclined
- 5. Backward Curved
- 6. Airfoil Blade
- 7. Forward Curved Multi-vane (a.k.a. Squirrel Cage)
- 8. Backward Curved Radial

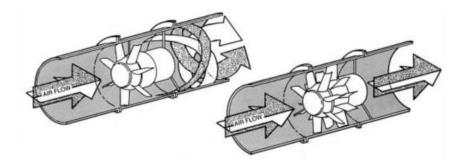
Each has its own advantages, mostly having to do with volume, pressure, noise and cost. The original 1960-61 Corvair blower fan appears be a backward inclined impeller. The 1962-63 Corvair blower fan appears to be a shrouded radial blade impeller (with curved inducers). And the 1964-69 Corvair blower fan appears to be an open radial blade impeller!

General Motors Technical Paper.

In June 1966, a General Motors engineer named Otto Ludecke presented a technical paper at a Society of Automo-

Axial Blower

Tube-axial & Vane-axial Blowers Revealed



Above Left: Tube-axial blower. Equipped with impellor blades but no static vanes. Air comes in and out in the same direction, but with significant turbulence.

Above Right: Vane-axial blower. Static vanes straighten the air flow coming out of the blower.

This is a concern for HVAC system designers, not for designers of aircooled engines. But we thought you'd like to know the difference in case you get asked this question on Jeopardy!



Left: Here we see a vane-axial blower in action. The blower is pulling air in from the left and blowing it out to the right. Internal vanes, which are static, straighten out the air flow after it's pushed by the rotating propeller blades. The vanes and blades are inside the housing.

Centrifugal Blower Blade Designs



Type 1 Shrouded Radial Blade



Type 2 **Open Radial Blade**



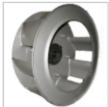
Type 3 Open Paddle Wheel



Type 4 Backward Inclined



Type 5 Backward Curved



Airfoil Blade



Type 7 Forward Curved Multi-vane



Type 8 **Backward Curved** Radial



1960-61 Corvair blower wheel appears to have Type 5 Backward Curved blades. Later versions have radial blades.





tive Engineers (SAE) convention in Detroit. The topic was *Blowers for Air Cooled Engines*. It remains available on the SAE website and, not surprisingly, explains some of the thinking that went into the Corvair engine cooling system. But it offers additional engineering ideas that were adopted after Chevrolet laid out the basic design of the Corvair engine back in the late 1950s.

Regarding the choice of a centrifugal blower for the Corvair:

The two basic categories of blowers to be considered are centrifugal and axial. The first develops pressure largely by the action of centrifugal force and has a radial discharge, and the second relies mostly on the blade shape to propel air along its axis. In fact, the axial blower is quite often referred to as a propeller or fan. It has been designed into round ducts and called a tube-axial fan, and with guiding vanes in the tube it becomes a vane-axial fan. None of these refinements have made the axial fan suitable for air-cooled engines which require a relatively high pressure to force enough cooling air through the closely finned sections. These narrow sections are inherent to the primary requirements of providing adequate surface area for heat rejection from the engine cylinders and heads. The cooling air is thus forced to scrub the fins and carry away its full capacity of heat. Axial fans are also usually noisier than centrifugal blowers of equivalent flow output. It is normal for the air-cooled engine blower designer to immediately think in terms of a centrifugal type for his system.

Regarding the choice of the Corvair blower's radial blade shape:

In the category of centrifugal blowers, there are three basic blade shapes to consider as shown in Figure 4: The forward curve, the radial blade, and the backward curve. The forward curved blade has the highest resultant discharge velocity and, therefore, potentially the highest pressure output. However, in practice, the casing or scroll necessary to convert this to usable static pressure with acceptable efficiency is often very large and complex. This leaves a choice of the radial blade for its fair pressure rise characteristic, or the backward blade for lower pressure but usually better efficiency and less noise. The backward blade blower may be run faster or made larger to match the output of the radial blade but its noise advantage is then lost due to the increased peripheral speed and the already highly stressed blades will be loaded further. The radial blade is not subject to the centrifugal forces which tend to straighten backward curved blades. Also, in most air-cooled engine applications, the blower size must be kept to a minimum. Thus, the most practical blower for construction and performance compromises is the radial bladed type.

THE FIFTH WHEEL

And that's why Corvair cooling blowers had radial blades beginning in 1962. Regarding the curled edges on the 1961-1963 blower blades:

A refinement usually added to the straight radial blade is an inducer on the inlet edge as shown in Figure 5. This achieves a smooth entrance of air into the blower which improves efficiency and lessens the noise of an abrupt impact on the air. This inducer should be designed for the maximum blower speed expected and should be angled at the resultant flow direction between the tangential speed component of the blade entrance, which decreases from the inlet rim towards the hub, and the constant axial inlet flow component. Thus, the angle of the inducer with the blower axis lessens near the hub. Frequently a compromise is made, as in the example of Figure 5, where a constant radius form is used which achieves the maximum inducer angle at the rim and the leading edge is cut down to gradually lessen the angle toward the hub.

Regarding the number of blower blades:

With the blower outline and the blade

shape designed, the number of blades and material to be used and type of construction must be determined. A large number of blades will result in a quieter fan with better efficiency than a blower with too few blades, but its weight and cost will be greater. Also, if too many blades are used, the increase in area restriction and surface friction will overcome the gains achieved by the improved air guidance.

Between 10 and 20 blades has been found suitable for most radial bladed air-cooled engine blowers. The designer may begin in the upward end of this range and later determine by test how few will yield acceptable results in his installation.

Regarding the 1964-69 design:

Mr. Ludecke did not mention "Corvair" in his paper, but he clearly had the Corvair in mind when he wrote it. Here are his comments regarding "Advanced Blower Design":

One typical cooling system has a cast blower in a flat shroud as shown in Figure 20. This type of shroud permits placement in a confined space which will not accommodate an upright scroll. To facilitate casting, the blower has no blade inducers or top cover, but the shroud is contoured to act as a cover in minimizing recirculation from the discharge to the inlet. The radial blades are unevenly spaced to minimize the high frequency noise sometimes encountered with high speed rotating equipment. A large hub was used since the pulley in this front drive system already covers part of the air entrance area.

Mr. Ludecke also described two other blower systems, namely the Volkswagen Type 1 Beetle blower design and an unusual dual-inlet blower design. All of the designs in his paper are centrifugal blowers, not axial blowers.

This is just a sampling of the topics addressed by Mr. Ludecke's paper. Other topics include blower construction, shroud design, and prototype testing. If

3 Figures from the 1966 GM / Ludecke Paper

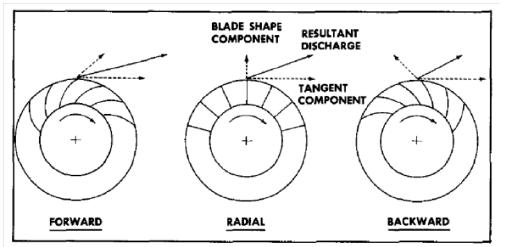


Figure 4 - Centrifugal Blower Blade Shapes.

The eight centrifugal blower blade designs shown on Page 3 are variations of the three shown here.

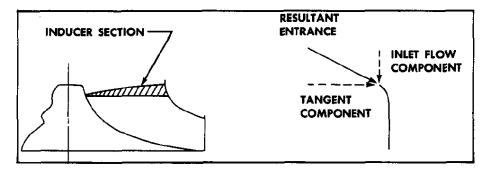
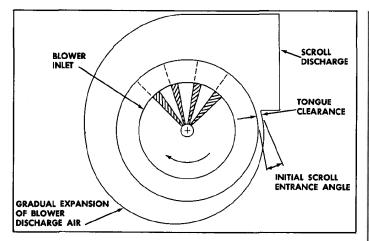


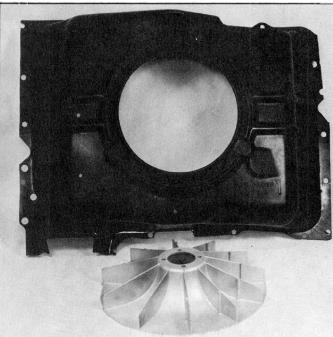
Figure 5 - Blade Inlet Flow Inducer.

Corvair blower blades from 1962 to 1963 have the curved tip flow inducers described in Ludecke's paper.



Top: Figure 9 - Blower Scroll Design. The scroll housing aims the blower discharge in a single direction. In this case, it would be off to the right.

Right: Figure 20 - Cast Radial Blade Blower and Flat Shroud. The Corvair blower doesn't need a scroll because the objective is to sling cooling air through the cylinder barrels and heads, all of which straddle the blower.



PAGE 6

you like that sort of thing, it's a fascinating read. It's SAE Paper 660351.

The Porsche 911 Blower.

You may recall that air-cooled Porsche engines are equipped with axial blowers rather than the centrifugal blower design advocated by Ludecke. You would think that a company like Porsche would heed the fact that centrifugal blowers are generally better at pushing air through obstructions like cooling fins. Well, their decision probably was based on packaging considerations. The oldfashioned centrifugal system on earlier Porsches was probably too tall to fit in the rear of the sleek 911 body. And Porsche was probably aware of the belt-flipping reputation of the horizontal Corvair blower. So Porsche MADE the axial blower work! Price for a replacement? \$349.95 on EBay - USED.

COME OUT TO CORVAIR DAY!

It's coming up soon! The Central Pennsylvania Corvair Club's "Corvair Day" event will be held at the AACA Museum in Hershey located at 161 Museum Drive, Hershey, PA 17033. Attendees can enjoy the people's choice car show, awards, door prizes, scavenger hunt in the museum, food, refreshments, vendors, evening banquet, and much more. Registration includes admission to the museum. Date: Saturday, September 24. Rain date: Sunday, September 25th. Time: 8:00 a.m. – 3:30 p.m. For additional information contact Earl Holmes, (717) 991-7341 or earlzgames@comcast.net.

DUES ARE DUE!

LVCC's membership year runs from August through July. So dues are now due! Annual dues for LVCC are \$15, but if you are also a member of the Corvair Society of America (CORSA), then you pay only \$10. Make your checks payable to Lehigh Valley Corvair Club Inc. and mail it to our Secretary/Treasurer:

Richard C. Weidner, LVCC 2304 Main Street Northampton, PA 18067

Questions? Call Dick Weidner at (610) 502-1414 or shoot him an email at rcwvair@rcn.com

DURYEA DAY REPORT

Eleven Corvairs were on display at Duryea Day in Boyertown, PA. Most of the Corvairs were from the Philadelphia club, but Fred Scherzer worked at the registration table all day and Al Lacki had LeHeap on the show field. More photos on Page 8!

Duryea Day Corvairs



Steve Petrelli's Fitch Sprint



Dave Smith's 1965 Corsa



Paul & Marlene Passini's '62 Monza wagon.

Air Cooled Engine Blowers



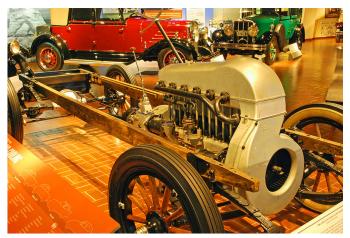
Corvair engine blowers!



You can't see this VW's blower. Inlet faces the front!



Wild trike with Tatra air-cooled V8! Centrifugal blower.



Air-cooled Franklin used centrifugal blower.



AMC Mighty-Mite V4 also used centrifugal blower.



Air-cooled Porsche 911 engine uses axial blower.

THE FIFTH WHEEL

More Corvairs at Duryea Day



Dave Stein's 1968 Monza



Nancy Sterley's 1963 Monza



Mark Cursey's 1961 Lakewood wagon.



Mike Slotwinski's Rampside



Ron Bealer's 1964 Monza



Al Lacki's 1966 Monza

Kachoomber

This is an easy-to-make salad recipe from "The Best of India - A Cookbook" written by Balraj Khanna and published in 1993.

Goes great with steak or any kind of barbecued meat! At home, we do without the cumin seed, but we include the rest of the ingredients. The chopped garlic, onion, mint and lemon juice combo will fill your kitchen with a beautiful aroma!

Ingredients

1/2 teaspoon cumin seed
4 tablespoons olive oil
2 tablespoons red wine vinegar
1 tablespoon lemon juice
2 garlic cloves, minced
1 cup thinly sliced onion rings
4 medium ripe tomatoes, sliced
1 small cucumber, thinly sliced
1/2 teaspoon ground black pepper
1/2 teaspoon salt
5 large fresh mint leaves, finely chopped

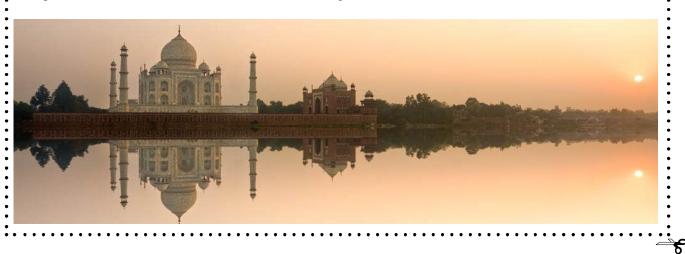


Directions

Heat a small skillet over med-high heat.

Add the cummin seeds and toast stirring constantly for 20-30 seconds.

- Transfer to a plate and allow to cool.
- In a large salad bowl, whisk the oil, vinegar, and lemon juice until blended.
- Add garlic, onion, tomatoes, cucumber. Pepper and salt to taste. Toss.
- Sprinkle with the cumin seeds and mint, toss well, toss again, and serve.



Car Events In and Around Lehigh Valley

CRUISE NIGHTS

2016 Cruise Schedule for Macungie Memorial Park

Location: Macungie Memorial Park, 50 S Poplar St, Macungie, PA 18062. Dates: April 16, May 21, June 11, July 16, August 20, September 24, October 15. Event start times: April & October: 4 PM. All other months: 5 PM. http://www.macungiepark.com/calendar.html

2016 Cruise Schedule for Trexlertown Plaza

Location: Trexlertown Plaza, 7150 Hamilton Blvd., Trexlertown, PA 18087. Dates: 2nd & last Saturday of each month, weather permitting. All makes of classic & antique vehicles welcome. All donations received at our cruise nights are presented to Dream Come True foundation. Event times: April 9 & 30 4-7 PM; All of May, June July, & August 5-8 PM; Sep 10 & 24 4-7 PM; Oct 8 & 29 3-6 PM. http://moparmadness.org/

2016 Cruise Schedule for Oley Turnpike Dairy

Location: Oley Turnpike Dairy, 6213 Oley Turnpike Road, Oley, PA 19547. Start time: 5 PM. Dates: Saturday April 30, May 14, May 28, June 11, June 25, July 9, July 23, August 6, August 20, September 3, September 17, 2016. Price: Free. Door Prizes; 50/50 tickets; trophies. Good food & ice cream; music; petting zoo & playground for kids. Contact: Mike Moyer 484-772-0996 or Sheila Jessum 484-515-46650. http://www.oleyturnpikedairy.com

SHOWS & OTHER EVENTS

Sunday September 18, 2016 :::: All Air-Cooled Gathering

Location: Swim and Sport Club of Flanders, 272 Emmans Road, Flanders, NJ 07836 (973) 584-9790. Time: 8 AM to 3 PM. Price: \$15 per car. Sponsored by the Central Jersey Volkswagen Society. A show for all cars with air-cooled engines. Corvairs definitely welcome. Trophies, dash plaques, on-site bar, kitchen and live music. http://www.allaircooledgathering.com/

Sunday September 18, 2016 :::: North Penn Gun Club Car Show

Location: North Penn Gun Club, 2555 Tollgate Road, Trumbauersville, PA 18970. Time: 10 AM to 3 PM. Rain or shine. Price: \$10 per car. Classic cars,muscle cars, exotics, low riders. Participants choice judging. Flea market space available. (215) 536-4218, northpenngunclub@verizon.net,

Saturday September 24, 2016 :::: Corvair Days at Hershey

Location: AACA Museum, 161 Museum Drive, Hershey, PA 17033. Time: 8 AM to 4 PM. Rain date: Sunday, September 25. This Corvair-only show is hosted by the Central PA Corvair Club on the AACA Museum grounds. Attendees can enjoy the people's choice car show, awards, door prizes, scavenger hunt in the museum, food, refreshments, vendors, evening banquet, and much more. Registration includes admission to the museum. For additional info contact Earl Holmes, (717) 991-7341 or email at earlzgames@comcast.net.

Saturday September 24, 2016 :::: Coatesville Vintage Grand Prix

Location: The cars can best be seen along "Pit Row" which is the 100-300 blocks of Lincoln Highway, Coatesville, PA. Time: 9 AM to 4:30 PM. Price: \$200 for drivers, free for spectators. Description: This inaugural and invitational event hosted by the city of Coatesville will feature approximately 50 vintage autos and motorcycles dating back from the early 1900's through the 1960s. This is a time trial event with restrictions on vehicle type and previous racing history is required. High-speed session and parade laps will occur between 9 AM to 4 PM and will follow a 2.2 mile course along Lincoln Highway encompassing the heart of the city and its neighborhoods. Complete information at http://www.coatesvillegrandprix.com/

Saturday September 24, 2016 :::: Northeast Corvair Council at NY Safety Track

Location: New York Safety Track, 396 Zimmerman Road, Jefferson, NY 12093. Tech inspection beginning at 7 AM, drivers meeting at 8 AM, alternative track sessions between cars & sport bikes beginning at 9 AM. Price: Full day at \$250. Visit the NECC website at www.neccmotorsports.com or contact Brian O'Neill at (973) 729-5586 or bmoneill@juno.com.

Car Events continued...

Saturday September 24, 2016 :::: 5th Annual Car Show & Community Day

Location: Silver Creek Athletic Association Grove, 2943 Route 212, Springtown, PA 18081. Time: 11 AM to 3 PM. Rain or Shine. Price: \$8 per car. Music, food, exhibits, and vendors. Prizes awarded for best in each of 5 categories. (These will be FUN categories). Contacts: SCAA at 610-346-6840, silvercreekaa@gmail.com, or www.SilverCreekAthleticAssociation.org

Sunday September 25, 2016 :::: 2016 Lehighton Car Show

Location: Lehighton Park, 118 North Street, Lehighton, PA 18235. Time: 11 AM to 4 PM. Price: \$10 per car. Benefits Lehighton High School Wrestling Team. Food, DJ, Chinese auction, awards, and door prizes. For more info, call Fred at (484) 629-2511. Email: freddyk35@yahoo.com.

Wednesday - Saturday, October 5-8, 2016 :::: AACA Eastern Fall Meet

Location: Giant Center, 550 Hersheypark Drive, Hershey, PA 17033. Time: 7 AM to 8 PM each day except Wednesday, 5 PM. Price: Admission free to the public. Must be an AACA member to enter a car or judge. Hershey has become the largest true antique car show in the world and includes a flea market with over 9,000 vendor spaces, a car corral with about 1,000 antique cars for sale and culminates in a great car show with 1,200 vintage cars on display. Phone: (717) 566-7720. Email: fall-meet@hersheyaaca.org. http://www.aaca.org/

Saturday October 8, 2016 :::: - 4th Annual "Tony's Place" Car Show

Location: 1297 Greeley Avenue, Ivyland, PA 18974. Time: 9 AM to 3 PM. Price: \$15 day of show. Rain date: October 15th. All years, makes & models welcome. Awards to top 30 & 5 specialty trophies. Door prizes, music, vendors, food and beverages. Contact movin/onkruzers@inbox.com or bf57c@inbox.com. Website: ww.movinonkruzers.com.

Sunday October 9, 2016 :::: 2nd Annual Trout Run Car Show

Location: Trout Run Park on old Rt. 15, ³/₄ mile south of the village of Trout Run, PA. Time: 9 AM to 3 PM. Price: \$8.00. Goodie bag for 1st 150 entrants (dash plaque, show t-shirt). Trophies for 1st, 2nd, 3rd place. Vendors welcome. There will be country music in the morning and classic rock in the afternoon with live bands. Contact Lisa at (570) 772-8782 or Denny at (570) 506-9080.

Sunday, October 9, 2016 :::: Autumnfest and Car Show

Location: North Catasauqua Park, 701 Grove Street, North Catasauqua PA 18032. Time: 11 AM to 5 PM. Pre-registration is \$10. Registration day of show \$15. Open to cars, trucks, tractors, and small engines. Trophies, participation awards, big raffle, and more. Event includes food court, car show, craft & flea vendor market, live music, family and kids activities (examples: musical shows, magic show, bounce house, kids craft tent, pumpkin decorating, games, giant hamster balls, U-Launcher, face painting, and more). Call (610) 264-1504 for more info or email NCataCentennial@aol.com.

Saturday October 15, 2016 :::: Upper Salford Township Car Show & Community Event

Location: Upper Salford Park, Schwenksville Road and 559 Salford Station Road, Schwenksville, PA 19473. Time: 8 AM to 3 PM. Price: \$10 per car. All years 1900 to 1990. No judging. Dash plaques to first 200 cars. Music, crafts, food, trolley tour.

Sunday October 16, 2016 :::: Wind Gap Octoberfest Car Show

Location: Wind Gap Borough Park, 545 West Street, Wind Gap, PA. Time: 10 AM to 3 PM. Prices: \$10 pre-register by October 1, \$12 day of shown. Prizes awarded for 17 classes. (No Corvair class). People's Choice judging. Complimentary coffee and bagels until 11 AM. German music, pig roast, old fashioned cake walk. For more info, call Ed at (610) 657-6196 of email ksbvet@ptd.net

Sunday October 30, 2016 :::: 40th Annual Kempton Car Show & Flea Market

Location: 83 Community Center Drive, Kempton, PA 19529. Time: 8 AM to 2:30 PM. Rain or shine or snow. Price: \$10. Dash plaques, food, trophies, flea market. For info, call Clarence Getz (610) 377-6130. www.buickfreespirit.org

Sunday November 6, 2016 :::: Reigelsville Fall Roll Out Car Show

Location: Reigelsville Ball Park, Route 611, Reigelsville, PA. Time: 8 AM to 2 PM. Rain or shine. Price: Free for cars. No Vehicles newer than 1991. Vintage, antiques, street rods, customs & trucks. http://riegelsville.org/fall-rollout-car-show/

SEPTEMBER 2016

LVCC Classified Ads!

Wanted: Do you have a Corvair to sell? Young enthusiastic Corvair fan is looking for a late series Corvair coupe or convertible. Rust-free Corsa or Monza preferred. Is aware of market prices and is willing to pay for a clean solid 'Vair. Contact Kyle Regan, (215) 756-3995, dankbudbankersclub@gmail.com P.S. We met Kyle at Das Awkscht Fescht this year.

For Sale: LVCC Member Keith Koehler is selling his 1965 Corvair Monza convertible. Automatic Trans/110 engine. The interior, trunk and engine compartment need some work but the engine was worked on and the brakes have fairly new linings. I have some extra parts that go with the car. Asking price: \$3,500. Interested people can contact me, Keith Koehler, at kpissant@comcast.net or they can call me at home (215) 703-0644. Feel free to leave a message.



For Sale: Engine deck lid for 1964 Corvair. Good condition. Asking \$100. Make an offer. Left front door for 1964 Corvair convertible with wind wing. Should fit any early-series Corvair convertible. Minor rust at bottom. Asking \$50. Also, wheel well trim for 1964 Corvair Monza or Spyder. Will fit any early-series Corvair. Contact LVCC Member Fred Scherzer at (484) 948-5142 or jukeboxman44@gmail.com

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LVCC Club Officers:

President: Dennis Stamm Phone: (610) 926-4723 Email: dmstamm@comcast.net Vice Pres: Fred Scherzer Phone: (484) 948-5142 Email: jukeboxman44@gmail.com Secretary / Treasurer: Richard Weidner. Phone: (610) 502-1414 Email: rcwvair@rcn.com Newsletter & Website Editor: Allan Lacki. Phone: (610) 927-1583 Email: redbat01@verizon.net

Next Meeting: Wednesday Sept 28, 2016