



Newsletter of the Performance Corvair Group (PCG)

CORVAIR RACER UPDATE

JANUARY 30, 2017

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CORVAIR ALLEY NEWS, by Rick Norris



Here at the shop there isn't much going on except awaiting parts for a customer engine build. The winter doldrums have set in with cloudy days, rain and cold but not freezing weather which causes the "winter blues" and you don't feel much like doing anything but hibernating. I think some animals have the right idea!

I do have a couple of engine builds scheduled but as racing season approaches time will be of the essence. I still need to change out the 3:89 diff in the race car back to the 3:55 for the Mitty. Where's the Pit Monkeys when I need them? I'll just have to do a pre-emptive hit of Aleve and get it on.

At least in the month of February we will see the greatest noticeable gain in daylight hours and that is a good thing. Warmer temps and springtime are sure to follow. We have been fortunate here with little or no measurable amount of snow. As a kid you prayed for it but now you just wish it would stay away!

There has been much discussion on the Corvair Racers Facebook page about where we plan to race this year. Maybe another Racer Reunion at a bucket list track. I know you old Corvair "hot shoes" have run about all the tracks in the East and other places but for us wannabe Walter Mitty types there are some great historic venues out there. Sebring comes to mind along with Daytona and

Corvair Racer Update is published by the Performance Corvair Group (PCG). We accept articles of interest to Corvair owners who are interested in extracting high performance from their classic Corvair cars and trucks. Classified advertising is available free of charge to all persons. Commercial advertising is also available on a fee basis. For details, email our club President. Email address shown in the Officers section on the back page of this newsletter.

PCG 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. Membership is free of charge. To join, please use the handy form on our website: www.corvair.org/chapters/pcg.

Watkins Glen but as in my case the travel distance not to mention the expense limits my choices to things closer to home.

One particular track I have been thinking about is Carolina Motorsports Park in Kershaw SC. It's kind of a quirky track and a part of it is not accessible to the spectator but I liked running there. Actually, that's where I had my only "podium" finish as it were in 2010. The SCCA Sunday race was in a pouring rain with only four cars in E Prod and I was running last when the third place car (a Mazda!) ran off in a corner in to the mud which gave me a third (and last in class) place finish. Spence Shepard was there too so I have a witness and photos.

A follow up on last week's article about custom crankshafts:

Jim Schardt sez:

Rick, I tried to get Scat to make a crank for years, but they never came through. The \$2500 one I got from SPA looks good but it took about 6 months to get.



Barry Ellison sez:

Oh My Gosh!... I am fighting nuts, bolts and washers right now. I'm trying to replace/upgrade to grade 8 most of the suspension stuff. I'm having a ton of fun getting the right stuff, difficult at best. I found a supplier my dad used during our textile days. I got 20 bolts both coarse and fine of every size, w/40 nuts and

40 washers, both grade 8 and 5. Now the bolts I got are either too short or too long. HA!

Now it's back today for shock and LCA bolts, nuts and washers. But, the good news is the front suspension including brakes plus rear trailing arms/shocks/springs are about ready to bolt on finally. Ugh! It's starting to look like a car again. I'm attacking the fuel/oil lines this week.

My vendor made a rare mistake. He said, "Anything you find in the shop you can use on the race car you can have." So I went scrounging, found a 1 into 4 fuel distribution block and an old school 1 into 3, completely different shapes. The one into four looks like the one to use, just older and it looks like it's for an old compressed air line. Not sure I can use it actually. I'm gonna save the bodywork for warmer weather.

Taking the Grind Out of Piston Ring Fitting

By Dave Monyhan (from Goodson)

We're getting close to the end of our series on Rod & Piston Work. So far we've talked about Connecting Rod Basics, Measuring, Machining and Removing & Installing Pins and Bushings. In this edition of Tech Notes, we'll be looking at Piston Ring Fitting. A lot of science goes into the design and manufacture of piston rings. We don't have the time (or room) for that in this post. We will, however, try to get a piston ring expert to share some of his knowledge with us in the near future.

Okay, we all know that piston rings and pistons have always been a part of the internal combustion since its inception way back in the 1800s. We also know that piston rings are designed to seal the cylinder to create compression so the ignition can light the air fuel mixture. And we know that the piston and the cylinder wall must have a specific clearance for oil.

But what about the piston ring? Why can't you just take them out of the box and put them on the piston and finish assembling the engine? Well actually you can take the piston ring right out of the box and yes, you can install them on the pistons and yes, you can then finish assembling the engine and for the standard

“stock” or “grocery getter” engine you will probably be just fine. However that theory will only work for the older style cast iron engines with standard oversize bores. For example, a Small Block Chevy has a 4” bore. If you bore and hone to .030” oversize, the out of the box ring and piston set will not have to be end-gapped. I do recommend, though, that with every engine job you check everything including ring gap even for a stock or grocery getting engine.

But, if you are doing any kind of performance work or adding custom pistons with file-to-fit rings or varying bore sizes you must file to fit. Also if you are changing the fuel delivery system from carburetion to fuel injection, adding nitrous, blowers or turbos then YES, you need file to fit the piston rings. It is essential that you follow the ring gap directions supplied with your piston and ring packs when you buy them.

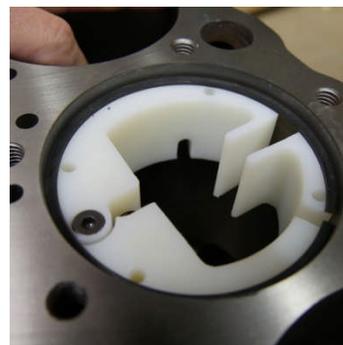
What about piston ring gap? The standing theory is that the piston ring gap is supposed to be .004” for every inch of cylinder bore diameter. We all knew that from high school auto shop. So how do you file a piston ring to the proper gap?

Recommended End-Gap Chart from Mahle-Clevite Tech Document

RECOMMENDED END-GAP		
TOP COMPRESSION RING		
Ductile, Grey Iron & Steel	4.000” Bore Example	Recommended Min. Gap Factor
Moderate Performance	.016 - .018	(.004 per inch of bore diameter)
Drag Racing, Oval Track	.018 - .020	(.0045 per inch of bore diameter)
Nitrous Oxide -- Street	.020 - .022	(.005 per inch of bore diameter)
Nitrous Oxide -- Drag	.028 - .030	(.007 per inch of bore diameter)
Supercharged	.024 - .026	(.006 per inch of bore diameter)
INTERMEDIATE COMPRESSION RING		
Grey Iron	4.000” Bore Example	Recommended Min. Gap Factor
Moderate Performance	.020 - .022	(.004 per inch of bore diameter)
Drag Racing, Oval Track	.022 - .024	(.0055 per inch of bore diameter)
Nitrous Oxide -- Street	.024 - .026	(.005 per inch of bore diameter)
Nitrous Oxide -- Drag	.028 - .030	(.007 per inch of bore diameter)
Supercharged	.024 - .026	(.006 per inch of bore diameter)

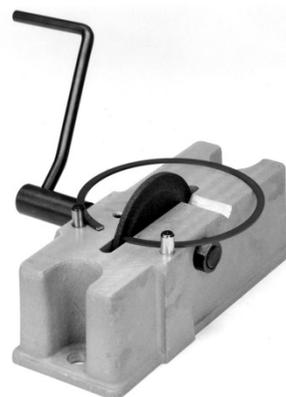
At Goodson we offer both manual and electric piston ring filers. But, before you can gap the ring you need to first.....square the ring in the bore. I recommend our newest Ring Squaring Tool (photos below). The squaring tools come in a variety of bore sizes and have a range of .300” of an inch per tool.

Ring Squaring Tool works well with narrow or light tension rings. (Most of us old school wrenches use a piston to square the ring in the bore). Once the ring is and you have correctly measured how much material you need to remove from the gap, it's time to load the piston ring into the ring filer.



We also need to deal with any "burrs left on the ring gap by using the de-burring wheel. (A stone or ignition file will do also. I once heard of a guy who found a used roll of duct tape that was just the right size for the job!)

So as you can see piston ring gapping is very straight forward and actual pretty simple with the correct tools. You can go less expensive especially for the home mechanic with the ring gap filer shown at right.



Dave Edsinger sez:

I met Rob Straw, at PIRC this past July. He has some interesting time lapse photos taken at night using a flashlight to highlight certain areas of the car. Very nice and it has patina!





Test & Tune at Pitt Race - Thursday July 6, 2017

The PVGP Test & Tune is an opportunity for all PVGP racers to test and fine tune for our upcoming races - both at Pitt Race Complex that weekend and Schenley Park the following weekend. This is an excellent opportunity to get some extra practice time on the full track - the Test & Tune will be held on the entire 2.8 mile North & South Track.

Details: Full Day (4 sessions - 80 minutes total track time) \$225, Half Day (2 sessions - 40 minutes total track time) \$150

Driver's School: The PVGP's first Driver's School last year produced five new vintage racers. The school is held in conjunction with our PVGP Historics Race Weekend during the Test & Tune Sessions on Thursday July 6. The school is conducted by E. Paul Dickinson (Ed. An ex-West Virginian) and his team at Track Instruction Program (TIPs). Students that successfully complete the school and race in subsequent weekend without incident will be issued a Vintage Motorsports Council (VMC) Competition license.

To receive your PVGP Vintage Driver's Competition License you must complete the Thursday Driver School (both classroom and track) and then enter the subsequent PVGP Historic Races on Friday, Saturday and Sunday. If you finish the race weekend without incident and receive the approval of our TIPs instructors you will become licensed and will be able to race with us at Schenley Park on the following weekend. Students will spend the entire day at the Pitt



Race Complex starting at 7:15 AM. There will be a combination of classroom training, track touring, a track walk and on-track driving. A boxed lunch will be included. Details

Head and Neck Restraints: Head and neck restraints are now required on both race weekends and will need to meet SFI 38.1 or FIA 8858 standards. Pre-war and Preservation cars are exempt.

Tires: The Pittsburgh Vintage Grand Prix has adopted the tire rules and regulations that many of the national vintage racing organizations have come to abide by. Schenley Park and Pitt Race Approved Tires But Not Limited To:

Avon ACB9, ACB10 and All-Weather, BF Goodrich g-Force Sport and g-Force RIVAL, Hankook Ventus RS2, RS3-V2, Z213, Z207, Falken RT615, Goodyear Blue Streak AND G-12, Hoosier Street TD & Speedster, Kumho V700, ECSTA XS, Toyo RA1, R888, R1R, Bridgestone RE 11, Dunlop Direza Sport Z1, Z11 or Z11-Star: 185/60-14, CR-65 and CR-82, Yokohama A032, A048, Nitto NT01S.

Specifically Prohibited: Slicks or any of the following tires: Avon Tech RA, Avon ZZR, ZZS or CR500, BFG G-Force R1, Goodyear GS/CS/RS, Hankook Z214, Hoosier DOT Radial, (R7 or SM7), Kumho V710, Michelin TB5, Toyo RR, or any other "street slick" type DOT tire.

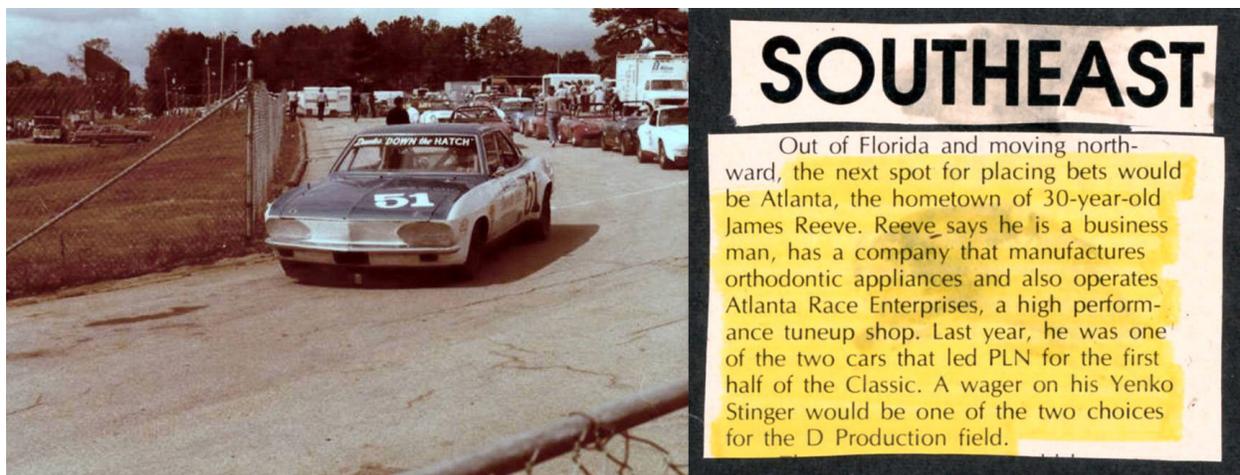
Note: ALL PRODUCTION CARS must use approved full molded treaded tires, regardless of what specification tires a car may have competed with in a prior race series. Tires may be shaved/worn to no less than 3/32"

Helmet Stickers: As we did last year, the PVGP will issue helmet stickers during the Friday night driver's meeting to all attendees. This shows that you were present at the Mandatory Drivers Meeting. Any driver found on the grid without a Helmet Sticker will not be allowed to compete. Your cooperation is greatly appreciated. This applies to both race weekends.

I never tire of looking at this. Photographer unknown but it's the shot of the century!



Vintage Road Atlanta, James Reeve



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