



# CORVAN ANTICS

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RAMSIDE/LOADSIDE



GREENBRIER SPORTSWAGON



CORVAN

Illustration: Chevrolet Motor Division



95's ON PARADE

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The first of each odd numbered month (Jan, Mar, May, etc)

Change of address: Please send to Caroline Silvey (She does the labels)

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 CORVANATICS dues are \$5 (US) a year and should be sent to Caroline  
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 ANTICS \$1 ea; Complete set 36. All items can be ordered from  
 Caroline Silvey

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ON THE COVER:

FC's on display at the Indianapolis Swap Meet last September, there are always lots of fine machines at this meet.

PRESIDENT'S CORNER....

Well the CORVAIR season is getting under way in my area again with many local events planned. I, of course, missed the first due to being at work. I have been trying to get my silver Rampside ready to drive since it has been on jacks all winter for only a one day job and is still not ready to go. I alway try to drive it to the Cincinnati Revival in June.

Hope to see several members and officers there, but if I do miss you then hope we can get together at Denver at the CORVANATICS meeting at the National.

Keep those FC's truckin'  
 E.D.Gridley

TECH TOPICS by Nico DeJong et al...

TECH TOPICS is a collection of technical questions, answers and tips. Although this column has been reviewed for technical content and is believed to be both acceptable and workable, RESULTS ARE NOT GUARANTEED, nor is any liability assumed by either CORVANATICS or the authors for any problem resulting from using this information.

All Forward-Control (F.C.) Corvaair questions (w/SASE) should be sent to one of our technical advisors (TA's) who will then (1) answer inquirer direct and (2) send a copy of question(s) and answer(s) to the technical editor for possible publication in this column. Any member may contact any TA, but preferably one in his or her own division in order to limit TA workload and match geographical area.

Your tech editor and TA's also welcome technical FC tips, advice, stories, etc. for publication in this column. His address is always on the inside front cover, and those of the TA's, divisions and specialties are listed here every other time.

F.C. CORVAIR QUESTIONS AND ANSWERS:

Q: "How's progress on the 1972-'80 Technical Index and Binder for CA Back Issues?"

A: "The increased demands on my time by (1) Doubled TT-column workload because of going from quarterly to bimonthly, (2) Regular-job overtime, (3) Some personal problems, we will be unable to have the project completed by Denver Convention time. The good news is that member Jack McCullen has graciously volunteered to assist; thank you, Jack! The 1975-1980 TT Index, published in the May '81 CORSA COMMUNIQUE, pages 21 & 22, is a step in the right direction; the CA Index will be much more detailed, however, and will cover five additional years. I'll bring my own binder, complete with cover label, title page, tabbed dividers and all 1972 through-'80 CA back issues with an S.A.E. Index as sample and demonstrator. See ye'all in Denver? (29 July thru 1 Aug.)"

NHD

Q: "Thanks for your help with '63 Greenbrier Side Cargo-Door and Chewed-Up Interior Door-Opener Handle Shaft; (March & April '81 TT - tech. ed'r). Used nearly-new part. What would I have done without that?"

Jack McCullen

A: "If the splines/serrations on the end

of the door-opener shaft are chewed up, you obviously need to get a new or used one. Since sometimes neither are available, the next best thing - which I have done several times - is to cut about 1" off the end of ANY control with similar splines. You can find them (and door handles, if needed - tech.ed'r) on door-opener or window regulator of many older cars and trucks - especially on Chevrolet trucks. Cut 1" off the chewed-up shaft, and weld on the new piece. Lubricate the mechanism to replace the now-fried lube."

Bob Kirkman

Q: "How do I equip my 1965 Greenbrier for burning regular gasoline?"

A: "Am no expert on this subject, so I'll simply summarize and list below all that I've heard and read so far, coming from Corvaair people who are a lot more experienced and knowledgeable than I am. Meanwhile I've come to four conclusions:

(1) Experts disagree. They don't seem to agree on the best method. Maybe as time goes on and more experience is gained and published, one or two methods may emerge as the most desirable. The nine techniques, compiled below, fairly well represent the current state of the art; the authors are also shown, so feel free to contact them for further details, if you wish. Will greatly appreciate a copy of your questions and their answers, so we may publish them in this column for the benefit of our readers.

(2) Trade-off. I think that when we consider two Corvaair engines, one designed to run on regular gasoline and the other on premium (but identical in every other respect), it can be said that the premium burning engine will develop more power since it operates at a higher compression ratio. Conversely, when we convert a premium-burning engine into one that performs well on regular gasoline, we should expect to lose some power and mileage, but gain in the end since regular gas is not as costly as premium and still widely available.

(3) Camshaft and Distributor. When converting an engine, it's also important to make sure that cam and distributor are the correct ones; ref.: CORSA COMMUNIQUE, Oct.'78, p.13 and CA, Summer '80, p.12.

(4) My choice. Personally, I prefer the method of installing shims (also called gaskets) between cylinders and block be-

cause:

(a) There are satisfied users, and even GM advocated and used this technique.

(b) This method is flexible and revocable; it's always possible to add or remove one or more shims.

(c) Shims are readily available; use stock GM item (more needed) or the thicker shims from Clark Corvair Parts, Otto Parts or

possibly other suppliers.

But this is only one opinion. We would very much like to hear from readers about their experiences - both good and bad! Hopefully the above and the following list of references and remarks will enable you to select the best method for your situation."

NHD

HOW TO RUN CORVAIR ENGINES ON REGULAR GASOLINE  
(Recent CORSA COMMUNIQUE references, listed in arbitrary order)

Method:	Date, Page:	Author:	Remarks:
Use Low-Compression Engine: 145 cu.in., 8.00:1, 80 hp 164 cu.in., 8.25:1, 95 hp	April '80, 19	L.Claypool	Modest power 95-hp engines are rare
Install Low-Compression Head on High-Compression Engine of same displacement	April '80, 19	L.Claypool	Modest power Not applicable to 140-hp engine 95-hp heads are rare
Install Cylinder-to-Block Gaskets on High-Compression Engine with flat (not dome) pistons (1/4 c.r.point/gasket)	April '80, 19 July '79, 9 Sept. '79, 14	L.Claypool J.Hovancec J.Lovett	On factory 140-hp engines with Powerglide & air-conditioning Flexible & revocable method Satisfied users
Install Oversize Head Gaskets in High-Compression Engine	Oct. '80, 12	H.Dillon	May present sealing problems
Change Crankshaft, Piston and Gaskets of High-Compression Engine	Oct. '80, 12	H.Dillon	Results in extremely low c.r. & greater reduction of gas mileage & power than may be de- sired; satisfied user
Rechamber High-Compression Engine Heads	April '79, 10 Dec. '79, 12	R.Kirkman R.Ivie	Techniques vary; machining costs Irrevocable method Satisfied users
Install Water &/or Alcohol Injection on High-Compression Engine	May '79, 11 May '80, 16 Aug. '80, 14 April '81, 12	K.Black L.Baumgart J.Martin O.Eliason	Improves gas mileage Burns relatively clean Satisfied owners
Retard Ignition Timing of High-Compression Engine	April '80, 19	L.Claypool	For emergency use only Lowers gas mileage Noticeable power loss Increases operating temperature
Use Octane Booster in High- Compression Engine	April '80, 19	L.Claypool	Very expensive; for racing only Cheap boosters like "STP Gas Treatment" or "104 Plus" are minimally effective

NHD and Larry Claypool

Next: "How To Equip Your F.C. for Maximum Power", "Valve Rotator Availability", etc.

THE CORVAIR 95 - CHEVROLET'S SPACE-AGE PANEL TRUCK by Alex C. Mair...

PART VIII - CHASSIS, REAR SUSPENSION

The new light duty forward control models utilize the swing type independent rear suspension (Fig. 22). In a rear engine, rear drive vehicle, the drive axle is positioned in close relationship with the engine. This design practically dictates independent rear suspension because power train length becomes a prime consideration.

Since the Corvair passenger car was to have independent rear suspension, a study was made to determine if any of its components could be used. However, the wider tread, heavier load and longer service requirements of the compact truck restricted interchangeability. Only the passenger lower control arm with modifications could be used.

The rear suspension is installed as a unitized assembly to the body at four points through resilient rubber mounts. The main element is a heavy-duty suspension cross-member which is fabricated from heavy-gauge steel stampings. The upper stamping is hat-shaped in cross-section. A steel plate, welded to the brim, or flanges, of the hat section, encloses the structure and provides the beam strength and rigidity required for positioning the suspension system components.

The outer extremities of the crossmember incorporate steel towers which house the coil springs and shock absorbers. In addition to providing a convenient means of attaching the upper end of the coil springs and shock absorbers, the towers afford a degree of protection to the springs and eliminate the need for shock absorber dust covers.

Each rear suspension control arm is an assembly of two stampings welded flange-to-flange and mounted on forged pivot shafts. Both arms support the wheel bear-

ings and brake backing plates and serve as a mounting base for the springs and shock absorbers. The arms, which pivot on rubber bushings, are located in a trailing fashion to permit the axle shafts to pass through an opening in the arm.

Frictionless coil springs perform as the suspension medium while double-acting shock absorbers provide the required damping action. The coil springs are made of AISI 5160 steel stressed to 139,000 pounds per square inch at the metal stop. Tests established a spring rate at the wheel of 177 pounds per inch.

The heavy duty rear wheel bearing (Fig. 23) is of the spherical type to allow for variations between the pivot center of the control arm and the center of the universal joint. Since it was necessary to locate the center of the universal joint somewhat inboard from the control arm pivot centers, a further need for a spherical bearing was evident. The rear wheel bearings are permanently lubricated for long life and minimum service.

As in all swing axle designs, the rear wheels change camber with ride motions. Figure 24 shows the relationship between rear wheel camber angle and ride motions.

The somewhat trailing position of the control arms and the previously mentioned relation between the universal joint centers and the pivot centers, causes a change in toe-in during vehicle ride motions, (Fig. 25). Because the rear wheels are independently suspended, new geometry factors must be considered. Toe-in, for example, is designed to increase positively as the suspension moves up or down from the design height position.

Thus, since the outside wheels carry the greatest weight during turns, the toeing-in characteristics of the rear suspension create a desirable understeer geometry. To adjust the basic toe-in setting, the transmission mounts in front and the engine mounts in the rear may be shimmed to move the engine-transaxle assembly fore or aft. This action results in a corresponding movement of the uni-

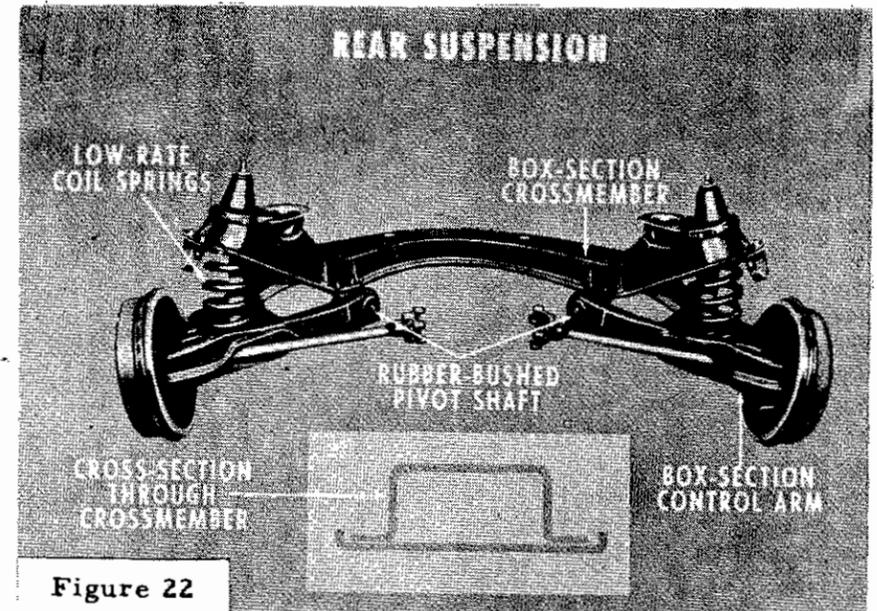


Figure 22

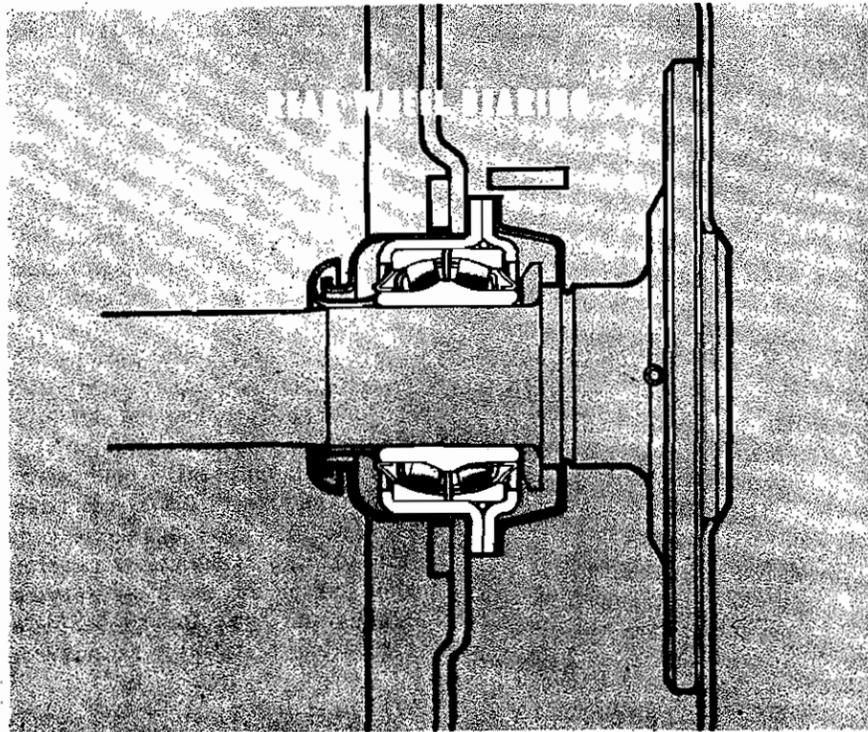


Figure 23

versal joint centers, making it possible to obtain the proper straight-ahead alignment at design weight. Initial toe-in setting is 1/8 inch at design load and 1/4 inches at curb.

To assure good durability, rear suspension assemblies were designed to the following criteria:

- Those components affected by bump loads must be stressed to 1/6 the yield of the material in question, based on the design load.
- Those components affected by braking loads must be stressed to 1/2 the yield of the material in question, based on a vehicle loaded to 112-1/2 percent of rated GVW during a full panic.

**REAR OVER-ALL TOE CURVE**

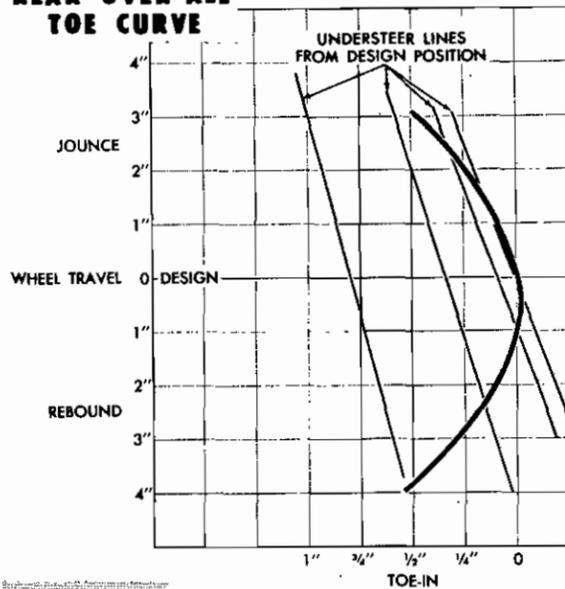


Figure 25

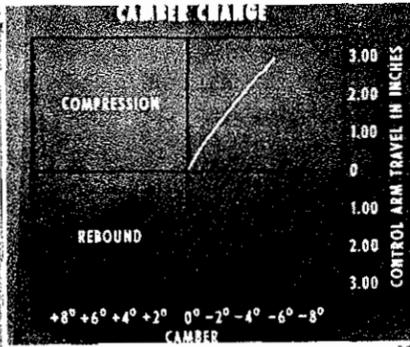


Figure 24

stop with a tire coefficient of 1.0.

- Those components affected by acceleration loads must be stressed to 1/2 the yield of the material in question, based on a vehicle loaded to 112-1/2 percent of rated GVW with acceleration in the greatest numerical gear reduction at peak engine torque, full weight transfer, and considering a tire coefficient of 1.0.

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WANT: I have a '64 six door Green brier auto with interior showing 17 years of use. I need info on interior items such as rubber mats, upholstery and finishes, thanks..  
Jim Wilson 1965 Davison Lake Road Oxford Michigan 48051  
1-313-628-1535

WANT: For a late '64 front vent flap, accelerator pedal mounting (top pivot mount) and the rear door Greenbrier emblem. Any leads will be appreciated.  
Lou Hoch 74 Franklin Ave Nutley, N.J. 07110 201-284-0563  
after 8:00 PM Collect

WANT: I am interested in a swap or buy outright a Greenbrier van. I don't think I'll find one in Pa so anywhere in the USA is OK  
Bob Miller Crafton-Ingram Shopping Center Pittsburgh, Pa 15205  
412-341-6199 after 3:00 PM

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Check these prices on ORIGINAL GM PARTS that we were going to offer in Denver!!

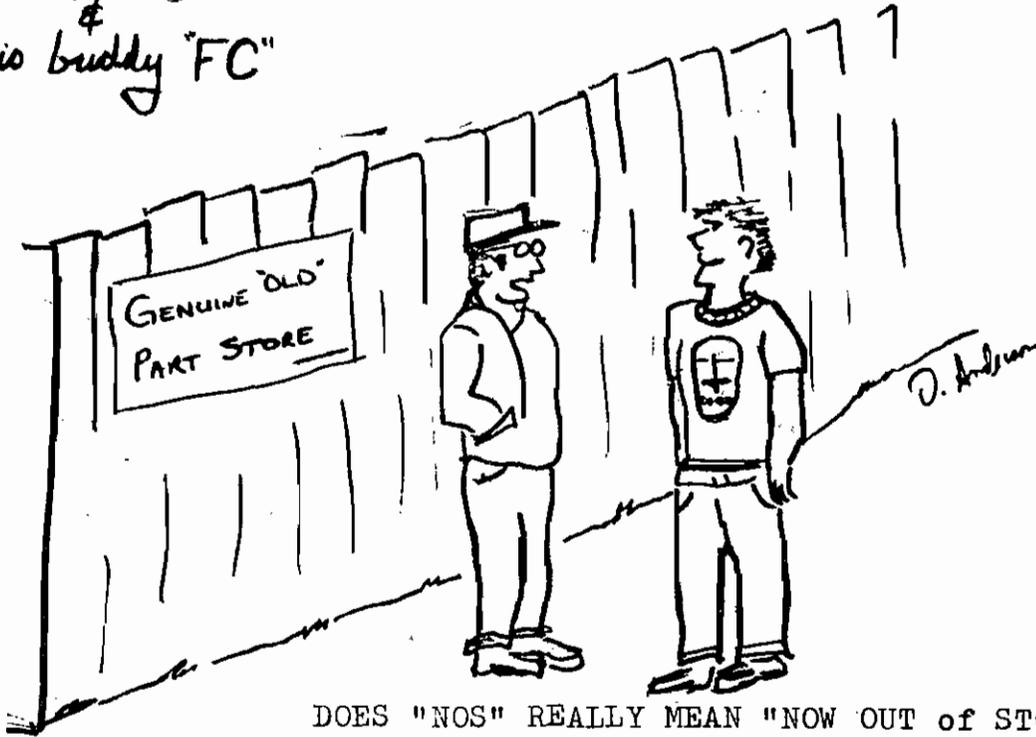
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