



Corvairsation

www.corvairs.org

Tucson Corvair Association
Volume 26, Number 10

Tucson, Arizona
March 2002



Phil Cole's dune buggy. This is a fiberglass body placed on a shortened Volkswagen floor pan with the VW transaxle and a "proper" engine. See more of Phil's machine at www.philsys.com/buggy/mybug

NOTICE: OUR MONTHLY MEETING TIMES HAVE CHANGED

March, 23---- Tour and Breakfast at Elvicks'

Meet at the access street on the north side of Speedway Blvd in front of Arizona School for Deaf & Blind (one block west of I-10) at 8:30 A.M. Tour will start at 8:40 A.M. If you are not touring with us, follow directions inside. RSVP to Allen by March 21.

883-4337

Tucson Corvair Association
Established 1975

Corvairsation is a monthly publication of the Tucson Corvair Association, which is dedicated to the preservation of the Corvair model of the Chevrolet Motor Division of General Motors. The Tucson Corvair Association is a chartered member of the Corvair Society of American (CORSAs), Chapter 857.

Monthly Meetings are held on the fourth Wednesday of each month, except December. One technical/social event is planned for each month except July and August.

Membership Dues are \$15 per year for singles and \$18 per year for families. Initial dues are \$15 for singles and \$22 for families (includes name tags). Make checks payable to Tucson Corvair Association.

Change of Address: Report any change of address or phone number to the Membership Chairperson. Do not report such changes to the Corvairsation Editor.

CORSA Membership Dues are \$30 per year (\$70 for 26 months) and include a subscription to the CORSA Communique, a monthly publication. CORSA membership is not required for membership in the TCA, but is highly recommended. See any TCA officer for more information.

Classified Ads are free to members and \$3.00 per 4-line ad to all others.

Deadline for materials submitted for publication in the Corvairsation is the 10th of month to the Editor.

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Tucson Corvair Association

Mountain View Restaurant at prince and Mountain Ave

Minutes of February 27, 2002

At 7:37 Barry Cunningham swung the gavel (missing or not) one last time as President of the TCA. In attendance were Barry Cunningham, Chris Cunningham, Julius and Pat Berky, Herb Berkman, Ed Segerstrom, Tim Green, Don and Bruce Robinson, Lance Gillingham, Chris Compton, Art, Paul and Nell Dunn, Dave Baker, Gordon Cauble, Allen Elvick, Van Pershing, Dave and Patrick Lynch and Amy, Emily and John Torpey.

We had four guest with us that night, Gordon Caubles grandson Bo and his friend, Bob McKetchen and Barry Watson. Thanks for coming everyone, it was a great turnout, I think we even surprised the manager.

Allen Elvick gave us a run down on our club finances, the begining was \$1555.36, monies were brought in from dues, the sale of raffle tickets and misc., expenditures included Corvairsation, refreshments for the tune-up clinic. The ending balance was \$1967.21.

Thanks Allen

Dave baker wanted to remind everyone that the library is well stocked with manuals, books and Corvair related information. All members are welcome to check out any item at any time. Thanks Dave.

Paul Dunn, our membership chairman, would like to remind just a few of you that the membership dues are due. Please check your records and see if this could be you. Thanks Paul.

Don Robinson, merchandise manager, has tickets for the Corvair that's going to raffled off at the Corvair Convention in Flagstaff. The tickets are \$2.50/ea. There are lots of tickets left so please remember, even one ticket will greatly increase your odds of winning. Thanks Paul.

Our mid-month activity for March will be a caravan of Corvairs through Star Pass then on to Allen's place for a Pancake feast. We've been told that Allen can make a mean pancake, please RSVP Allen before March 17. Thanks Allen.

There was to be a guest speaker from the Phoenix club at the meeting, unfortunately, circumstances did not allow him to come down for the night, hopefully the next meeting.

Nell Dunn has reserved 2 cabins in Flagstaff for the upcoming convention. Each cabin will sleep up to 6 people and they go for \$80 / night / cabin. If you're interested in staying in one of these cabins please contact Nell A.S.A.P. , I think they're going fast. Thanks Nell

We had a raffle of our own that night, 3 prizes were donated by Gordon Cauble (1) and Dave Lynch (2). My apologies, I had to leave early that night so I don't know who the lucky winners were.

We had a changing of the officers that night. They are as follows: Chris Cunningham – President
Lance Gillingham – Vice president; Allen Elvick – Treasurer; Dave Baker-Librarian;
Recording Secretary – John Torpey; Paul Dunn – Webmaster and Membership Chairman;
Merchandise Manager – Don Robinson and Barry Cunningham is our new Member at Large.

The meeting was adjourned at 9:00pm. See you at the caravan on the 17th.

Prez Sez

This letter is my last duty as president. Actually I'm just filling in for the newly elected president. It has been my absolute pleasure serving for such a respected group of folks. I have thoroughly enjoyed holding the office. My brother Chris is filling my shoes as president and I will be serving as board member at large.

I have just returned from Kansas City [Chris is still on the road] after our mother's funeral. Thanks for all your thoughts and prayers for our family.

We have another new club member, our father Jack Cunningham, who will receive our club correspondence to keep him a little more in tune with his sons. He lives in KCMO, and we feel he is very deserving of being a member because he is a Corvair enthusiast. He is the former owner of a 1966 Monza convertible. He bought Chris and me our first Corvair to share and drive to school in 1974 and we have both been driving Corvairs ever since.

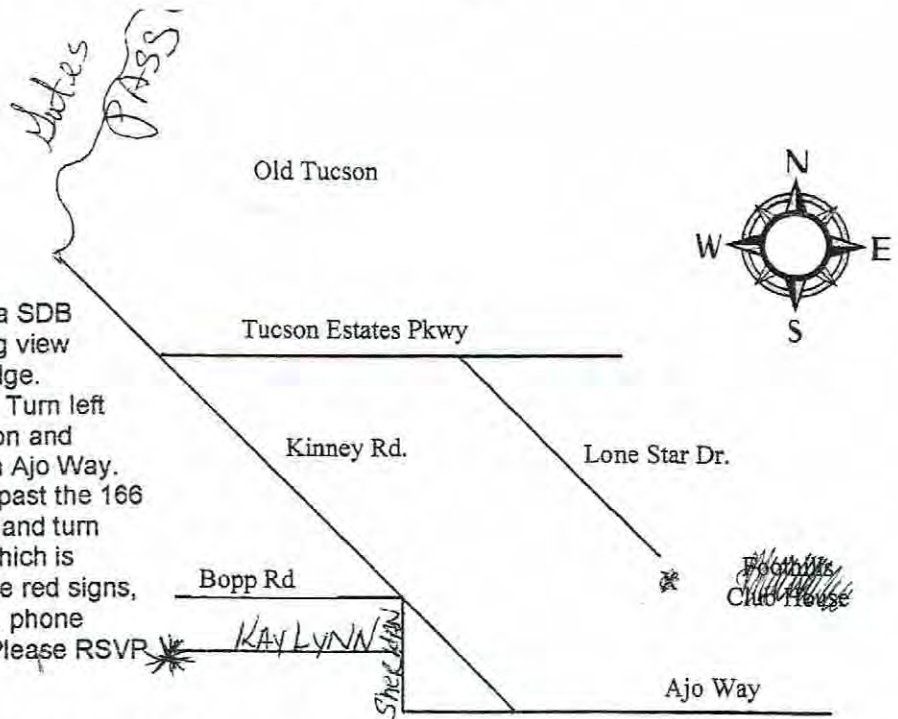
Don't forget to get your national convention reservations in soon; the time is growing near. What a grand event this is going to be in Flagstaff.

Hope to see you at this month's outing. We are going to have a fun little cruise through Gate's Pass to the Elvicks' home for breakfast. Thank you very much!

Respectfully yours always, Barry Cunningham

Notice the change to right on Ajo from the directions that were given out at the meeting.

Cruise west on Speedway from the Arizona SDB up through Gates Pass. Enjoy the morning view from Gates Pass but don't look over the edge. Continue on until you reach Kinney Road. Turn left on Kinney Road and cruise past Old Tucson and Tucson Estates arriving at the stop light on Ajo Way. Turn **right** on Ajo way and go west to just past the 166 mile marker (less than a quarter of a mile) and turn right on Sheridan. Go to the second left which is Kay Lynn heading west. When you see the red signs, you are almost there..4210 South Preston, phone 883-4337 Hope to see you on March 23. Please RSVP



from the editor.....

Thanks to John and Amy Torpey for hosting the February tune up at their home. We had a great lunch to top things off. John's new hydraulic lift got a lot of attention and we looked at a lot of Corvair undersides, a perspective we seldom get. What a turn-out 10 Corvairs and 18 people; that's the way to go!

New meeting times are here! Move every thing up about 30 minutes. The parking lot bull session starts at 6:00, dinner at 6:20, then the meeting will start promptly at 7:00. Hopefully that will work out better for all of us.

The mid-month event for March is a tour through Gates Pass and breakfast at the Elvicks' home. I think a lot of you are looking forward to those Norwegian Pancakes from the old family recipe. Be certain to RSVP by March 21.

Dune Buggies! Everyone has wanted one at one time or another. Enjoy!

Corvair Powered Dune Buggies

Van Pershing

Dune buggies were all the rage in the 60's and 70's and one of the more popular modifications was to remove the enemic Volkswagen power plants and replace them with Corvair engines. The more popular buggies were fiberglass bodies bolted to shorten VW floor pans. All you had to do was buy a set of adaptors and make a few mods to the VW transaxle and bolt in anything from an 80-horse to a 180-horse Corvair and you were ready to go. Crown Manufacturing was a big supplier of all the goodies to make the conversion.

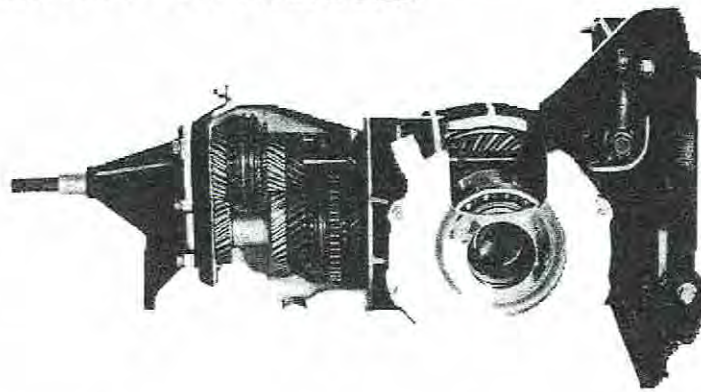
Another way to go which was not nearly as popular was to fabricate a frame and use all Corvair components, front and rear suspension included. There were many ways to skin the cat.

We've included some pages from the Crown Manufacturing catalog that pertain the the Corvair/Volkswagen conversion. Many of of the parts and pieces mentioned here are still available from several of the Corvair parts vendors. And, you can still find dune buggies (and sand rails, for that matter) for sale around town ... this information might be helpful if you were to happen to purchase one for your weekend pleasure.



All Corvair! See more at www.earth1.net/~ricjan/dune02.html

HOW TO BUILD A "BULLETPROOF" VW TRANSAXLE



A few words of advice are offered here to help anyone making decisions on which parts to buy for rebuilding or "bulletproofing" a VW transaxle. Generally speaking, most VW transaxle cases, be they swing axle or IRS types, lend themselves beautifully to the Corvair engine swaps described in this catalog in addition to the kind of hop-ups being performed today. This holds true for any off road or street application; be it out-and-out competition such as Baja, a windy cruise over Glamis sand dunes or a family sight-seeing jaunt in the old Kombi.

From a professional point of view, most of today's tranny rebuilders prefer to use the swing axle trans case of '65 through '68 vintage. For that matter, the later IRS (independent rear suspension) cases have become quite popular and are considered excellent bulletproofing material. In addition to these you'll find the '72 sedan swing axle model to be ideal because it features an oversize clutch shaft. These cases share one common feature. In their stock form they come equipped with side plates which feature C-ring sealing around the critical perimeter of the final drive section. If you were to consider nothing else, this one factor should not be overlooked when deciding on a transaxle.

The mixing and matching of parts from the various transaxles is common practice and generally doesn't cause any difficulty. The thing to keep in mind here, however, is that certain combinations, though workable, are not as beneficial as others. For example, low gear from an early tranny ('61-'63) will fit into just about any VW swing axle case you care to name. But, dependability is a far more worthwhile consideration than fit or availability. For example, if you were to put an early low gear unit in any trans expected to withstand the punishment of wheelstanding or Ascot competition, it would only be a question of time before trans failure put you out of action.

Making minor improvements now while you are going through the drivetrain will pay off in the long run. Consider things such as replacing stock 3rd and 4th gear Woodruff keys with our heat treated keys. Specifically, stock keys holding 3rd and 4th gears in place on '67 and earlier pinion shafts are soft and should always be replaced with **Crown's hardened 3rd and 4th Gear Keys #5207**. Also note that 3rd and 4th gears are driven by synchro tooth rings which are merely pressed into place. Whether you use our **high strength close ratio gears #5047/5048** or retain stock gears, we strongly suggest that you have these assembled gears tack welded to the synchro hubs. Three or four 1/8-inch long heliarc tack welds are sufficient.

And be sure to have the inside diameter surfaces honed to restore proper shaft tolerances.

The sleeve washer and shim arrangement between 3rd and 4th gears on the pinion shaft in stock pre-'67 transaxles is replaced with Crown's #5012 8eCu washer and spacer set. This will hold things securely in place on the pinion shaft. Moving along to 2nd gear, we find that stock transaxles are equipped with a brass shift fork for 1st to 2nd gear. This unit tends to bend and flex and occasionally break during hard shifting into 2nd (such as at the drags). Crown's heavy duty #5224 high-strength shift forks eliminate this problem.

In the final drive section we find that the stock VW differential housing is too weak to hold up under heavy use. We also believe the stock housing is too flexible for maintaining proper ring and pinion gear tolerances. Crown offers three different heavy duty differential units, the #5023 IRs-type, #50598 swing axle Super Diff, and the #5059C Super Racing Diff for all racing applications. Each of these Diff units provides two additional spider gears, making the total four, and there's the added security of the heavier casting itself. The ring and pinion gears themselves can be replaced with a stronger late sedan, Variant or bus set up, or a good after-market package, in whatever ratio you feel is best for your application. However, the use of our #5059C Super Racing Diff, plus a pair of either aluminum (#5063A) or steel (#50638) side covers will serve to strengthen your final drive section without ring and pinion replacement.

Stock VW side covers lack the tensile strength and sheer mass required in the final drive section to keep the bearing from deflecting, and this in turn allows the ring gear to oscillate away from full engagement with the pinion gear. This is why over-stressed stock VW boxes break ring gears. Though controversy rages over which is the best replacement side cover, aluminum or steel, one thing is certain. Used in combination with either of Crown's 4-spider Diffs, the threat of ring gear failure is substantially reduced. The bulletproofing process doesn't end here. We have axle tube retainers (#5073) in split or one-piece models which are designed to replace stock stampings with heavy duty machined plates. We also supply the strongest forged axles obtainable. They come in sizes to suit your application regardless of trans year. Be sure to use our heavy duty temperature-resistant gasket set #5055 to permanently eliminate leaks and drips.

Our suggestion is that you carefully review the components illustrated throughout this section and decide which items your application requires.

CORVAIR TO VW ADAPTER KITS

Is your problem with a standard VW a lack of power? Do you find yourself wanting more power on the high-way, and particularly if you are driving a bus? Hills are agonizing. ..you are frustrated and so are all motorists behind you. With a Crown Adaptor Kit you can power your stick shift VW transporter, sedan, Porsche, Karman Ghia or buggy with a Chevrolet Corvair engine. You can expect reliable results with Crown's quality kits and components. Each kit supplies you with everything necessary to make the swap a trouble-free installation.

All you have to do is shop around for a good or rebuild able Corvair engine. You'll be surprised how easily the Corvair snuggles up to your VW trans and leaves you a surprising amount of working room for tinkering with the engine when it is mounted in the car. Very little sheet metal cutting is required. Planning is the key to success with any engine swap. So take some measurements before you think it's time to start hacking away at the sheet metal.

There are two basic methods to compensate for the opposite rotation of the VW and Corvair engines. Both

are completely reliable arrangements. Your choice depends on: 1) Are you planning to remove and check or repair your VW transaxle? If so, use Method No.1. This is the reverse ring gear method; Or, 2) are you planning to rebuild your Corvair engine? If so, use Method No.2. This is the reverse engine method. It is also advisable when buying a transaxle to be aware of its year and the model VW it originally came from.

Electrical problems? There are none. The best and easiest way to handle the difference between the 12. volt Corvair system and the early 6-volt VW system is to install a 12-volt alternator and regulator and 12-volt bulbs throughout the car. A 10-watt resistor is spliced in series into the hot wire of the windshield wiper and a 25.watt resistor spliced into the transistor radio. The gauges work ok as is. Newer 12-volt VW ('67 and later) feature 12.volt systems so there are no changes required. Sorry, Crown conversion kits are not available for automatic transmissions. Additional items of interest are found in the "High Performance Corvair Parts" section of this catalog.

Method No.1

REVERSED RING GEAR

This method is necessary to reverse the ring gear of all swing axle VWs to reverse the drive direction of the trans. Use a 12.volt Corvair starter -this we do not supply. Available with 6.lb. aluminum, or 16.lb. steel flywheel. When ordering either the BASIC or DELUXE kits, you must specify which (flywheel) you require. If you order No. 5101A or 5102A you will receive a light aluminum flywheel. See page 20. If you order No. 5101B or 5102B you will receive a heavy steel flywheel. See page 20. You may order either kit with a Feramic Clutch Disc #5040B (see page 11.) Add \$2000 to the price of either kit when ordering.

BASIC CORVAIR TO VW ADAPTOR KIT NO.5101

This kit is offered for those who prefer to supply their own clutch assembly.

includes:

- 5001 engine adapter
- 5002 offset starter adaptor & bushing set
- 5003 12-volt Corvair flywheel, 127 teeth (aluminum or steel)
- 5008 throttle linkage

No. 5101A Kit comes with aluminum flywheel 16 lbs.

No.5101B Kit comes with steel flywheel..... 20 lbs.

DELUXE CORVAIR TO VW ADAPTOR KIT NO.5102

The advantages of this kit are that when you have installed it, the complete drivetrain is overhauled: Note: You must specify aluminum or steel flywheel; adaptor plus, early or late pressure plate.

includes (as shown)

- 5001 engine adapter
- 5002 offset starter adapter & bushing set
- 5003 12.volt Corvair flywheel, 127 teeth (aluminum or steel)
- 5004 A or B heavy duty pressure plate (specify early "A" or late "B" style-see page 10)
- 5005 clutch disc
- 5008 throttle linkage
- 5012 spring washers & spacer kit for 3rd & 4th gears

No. 5102A Kit comes with aluminm flywheel..... 26 lbs.

No.5102B Kit comes with steel flywheel.....36 lbs.



No.5102

CORVAIR TO VW ADAPTER KITS

Method No.2

REVERSED ENGINE

This method is required when you are going to use a reversed Corvaire engine in '68 and later IRS trans-equipped VW, station wagon, automatic sedans or a 911/912 Porsche. The ring gear in these models cannot be reversed. You have a choice of 6-lb. aluminum, or, 16-lb. steel flywheel. Flywheel must be specified along with the style pressure plate your conversion requires -early (with release pad) or late (without release pad). You may order this kit with a Feramic Clutch Disc #50408 (see page 11). Add \$20.00 to the price of the kit when ordering. In addition to this kit you will need a Reverse Corvaire Engine Cam Kit (see below).

REVERSED ENGINE CORVAIR TO VW ADAPTOR KIT NO.5152

includes:

- 5001 engine adaptor
- 5004 A or B heavy duty pressure plate
(specify early "A.. or "B.. style-see page 10)
- 5005 clutch disc
- 5008 throttle linkage

-PLUS -

(the 6-volt flywheel of your choice)

- 5053A-L light (aluminum) flywheel 6-volt 109 teeth
- 5053A-H heavy (steel) flywheel 6-volt 109 teeth

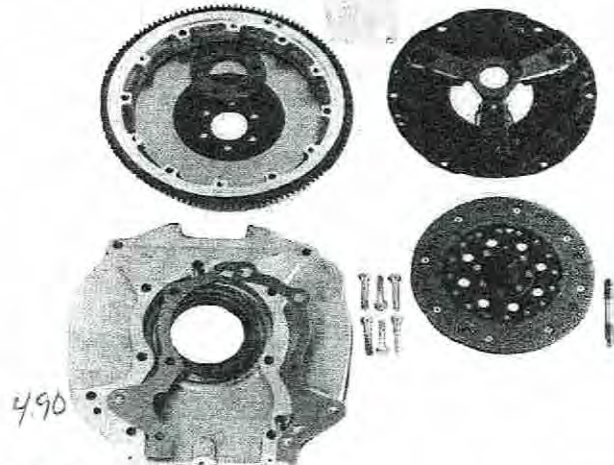
-OR-

(the 12-volt flywheel of your choice)

- 5053B-L light (aluminum) flywheel 12-volt 130 teeth
- 5053B-H heavy (steel) flywheel 12-volt 130 teeth

- No.5152A with light (aluminum) 6-volt flywheel.....26 lbs.
- No.51528 with heavy (steel) 6-volt flywheel.....36 lbs
- No. 5152C with light (aluminum) 12-volt flywheel..... 26 lbs.
- No.51520 with heavy (steel) 12-volt flywheel..... 36 lbs.

1



No.5152

See page 19 for Corvaire engine and trans into '68 and later IRS bus conversion.

REVERSE CORVAIR ENGINE CAM KITS

The reversing of a Corvaire engine is common practice these days and such an operation requires nothing in the way of unusual tools or techniques. The major requirement is replacing the stock camshaft with that of a Reverse Rotation camshaft. Obviously, this will have an effect on your firing order. But all you have to remember is that cylinder 1 remains in its original location. Stock firing order is 145236. With a reversed engine it becomes 163254. As you can see cylinder number 1 remains cylinder number 1. Crown no longer manufactures these cams but Crower Cams will remanufacture your existing Corvaire Cam into a reversed cam. Call Crower Cams at (619) 422-1191 or write Crower Cams, 3333 Main Street, Chula Vista, California 92011 for full information.

You will need to order No.5050-3-7 gears, washers and key. The hardened steel distributor drive gear (upper left) is a perfect fit on your distributor shaft. Large gear (upper right) is the bronze left hand drive oil pump gear. Cam thrust washer and Woodruff key also hardened. Order gears and washers individually or in sets.



3 Missing items above in photo

No.5050-3 bronze cam gear only

No.5050-5 steel distributor drive gear only

No.5050-3-7 gears, washers & key

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For Sale: Corvair parts - Large outdoor yard full of Corvairs of every model. Call Barry Cunningham (520) 733-7387.

For Sale: Lots of good used and some new parts for early Corvair cars. Great accumulation from the last 40 years. What do you need? Close out prices! Don or Betty (520) 886-1076.

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