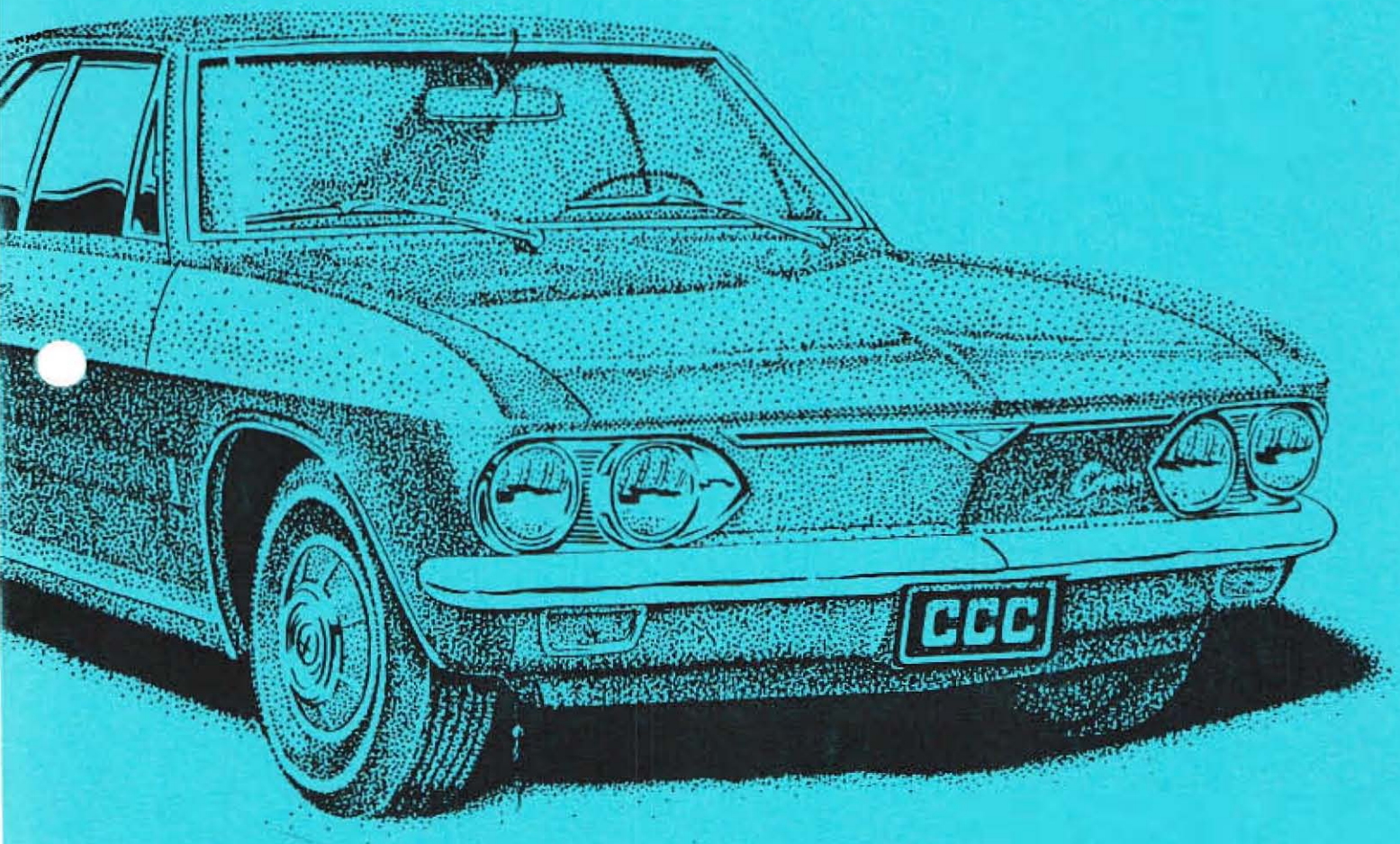
Corvairation

TUCSON CORVAIR ASSOCIATION TUCSON, ARIZONA
VOLUME 11 NUMBER 10 JANUARY 1986



IN THIS ISSUE:

TUCSON CORVAIR ASSOCIATION

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. The Tucson Corvair Association is a chartered member of the CORVAIR SOCIETY OF AMERICA (CORSA).

MONTHLY MEETING are held on the 4th Wednesday of each month except December. One technical/social event is planned for each month except July and August.

MEMBERSHIP DUES are $10 per year and are payable to the TUCSON CORVAIR ASSOCIATION through the Membership Chairman.

CORSA MEMBERSHIP DUES are $22 per year and include a subscription to the CORSA Communique, a monthly publication. See a TCA Officer for a membership application.

CLASSIFIED ADS are FREE to all TCA members and are $1.00 per line to others. The deadline for materials submitted for publication is the 10th of the month for that month's issue. Mail or deliver all materials to the Corvaisation Editor.

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Current TCA Officer,
Van Pershing, Bob Gay,
Carole Sanford, and the
Corvairsation Editor.

MARK'S REMARKS

The Christmas Party was a hugh success, thank all of you for attending. Next time we will ask Frank McKenna to draw a better map. Ed Carey went through Benson twice on his way to the party. I'm glad Alice was with him. For those of you who couldn't attend - lets try to make it next year. The high point of the party was the recognition of the Man of the Year. This years award had an additional significance in that we have renamed it the Byran Lynch Award in memory of one of our former members and this years recipient was Van Pershing.

The following folks were kind enough to donate gifts for the TCA Christmas party. Patronize them if you get the chance!!

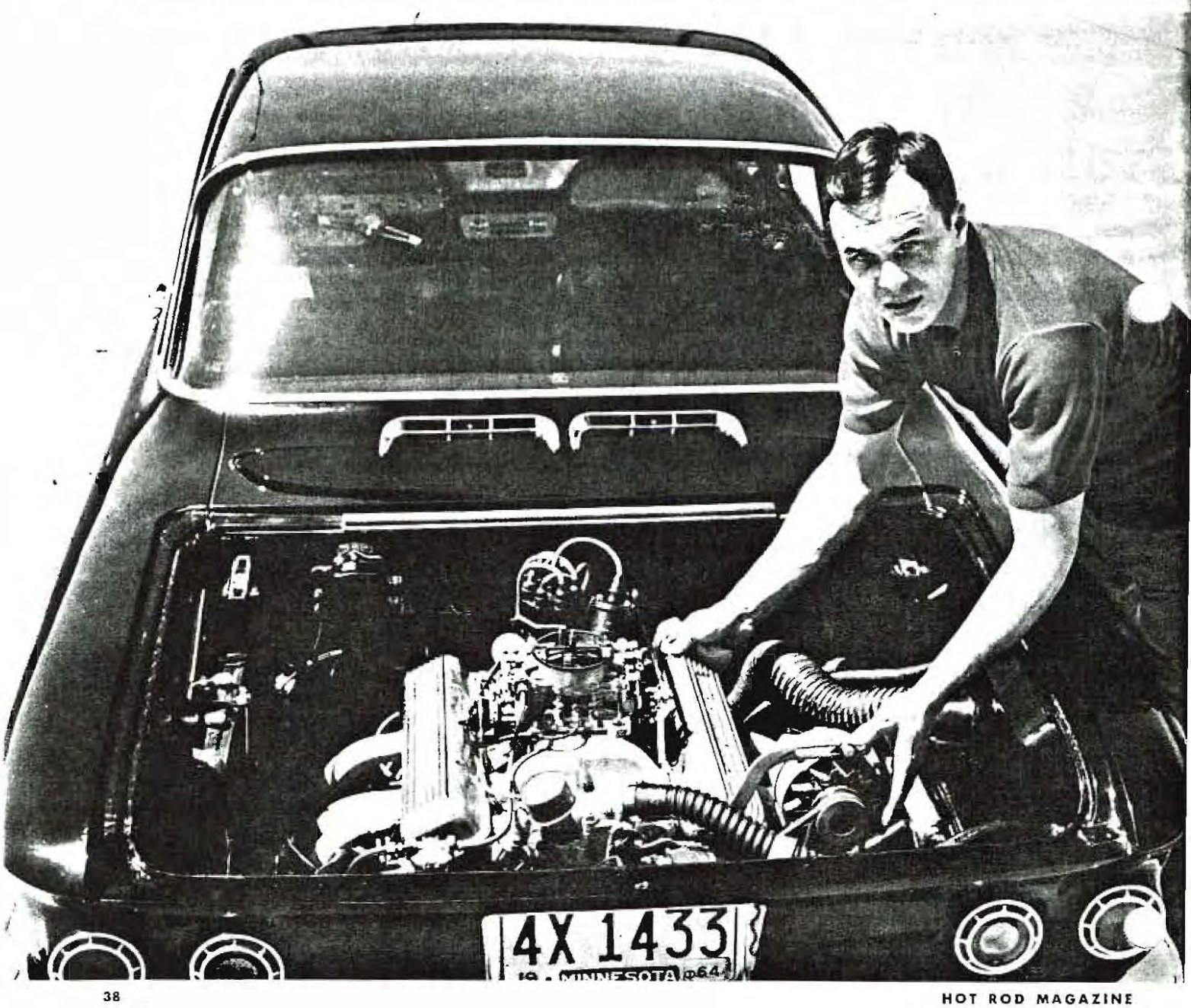
The Corvair Monza hadn't been in the showrooms 24 hours before the boys were speculating as to how it might perform with a V8 in place of the stock "sicks." It was agreed that a Corvette mill would be just the ticket for the fascinating little coupe; it was also generally agreed that a simple, practical swap would be impossible.

However, one hot-dogger, Skip Huth, of Huth Automotive Engineering, St. Paul, Minnesota, couldn't shake the obsession and, with tape measure and note pad in hand, he proceeded to gather the necessary vital statistics. It was already decided that from the standpoint of Joe Average Rodder the stock Corvair trans-axle assembly would have to be used because there is no alternate domestic unit. The measurements showed that by removing the crankshaft pulley and the water pump from the Chevy mill (in this case a '63 Corvette, 340 hp) and by notching the 'Vair rear box section, the engine would just squeeze in. Ground-to-pan clearance would be about the same as with the flat six, and perhaps with some cheating the whole works might nestle under the lid without exterior alterations.

"They said it couldn't be done!"

Now that the installation looked possible, would it be practical? Front-to-rear weight distribution was a primary consideration. The Corvair certainly isn't Gran Prix material anyway with 63% of its weight on the rear wheels. Huth calculated the approximate extra weight which would be on the rear

Aww, whaddaya mean? You really can't put a Chevy V8 in a



wheels and the approximate extra weight on the front wheels (radiator full of water, spare tire, fans, and shrouding) and estimated maximum alteration would be 2 to 3 per cent.

With the weight question satisfied, the next important aspect to consider was the strength of the Corvair transaxle components. Although the 'Vair transmission and differential gears themselves are small, it was felt that the units would be quite adequate – in part because of the way that the sturdy housings bolt together with the engine to form a solid, slack-free assembly and, also, from their generally good service record. However, the real point of apprehension concerned the long, skinny forged input shaft (about two feet long by approximately ⅝-inch diameter) which, from outward appearance, would not stand up in Sister Sue's Radio Flyer coaster wagon. Because the shaft passes through the transmission mainshaft with little clearance, its diameter could not be increased more than a few thousandths of an inch. It looked as if the pessimists were right.

However, after inspecting a stock Chevy 3-speed transmission input shaft, which is necked down to a very small diameter directly behind the clutch spline, Huth reasoned that, in view of the fact that these shafts were taking the gaff to which they are subjected, perhaps a Corvair shaft of the right material might do the job. A shaft had to be made anyway because the stock 'Vair shaft was too short to extend into the deeper Chevy V8 bellhousing.

A call to Ryerson Steel Supply Co. and a piece of 4340 aircraft quality alloy steel was on its way. The shaft was turned from a solid billet of this material, 1⅛-inch in diameter by about 25½ inches long. The splines were done at Sewall Gear in St. Paul, and the heat treat was handled by Jim Lindahl at Getchell Steel Treating in Minneapolis. Huth had already worked out a clutch-housing-to-differential adaptor which was essentially a parallel-ground flat-plate type, with a dowel-pinned, cap-screwed ring on one side to index the plate into the register hole in the rear of the stock Chevrolet clutch housing and, on the other side, an annular groove to index it with the raised ring on the face of the Corvair differential housing. All that has to be done to assemble the engine with adaptor plate, to the Corvair differential, is a little freehand grinding on the face of the housing and hole-sawing a clearance passage for the head of one of the half-inch cap screws that hold the adaptor plate to the Chevy clutch housing. One other operation was performed before the engine and trans-axle could be buttoned up for good: the stock throwout bearing support was not long enough (because of the deeper clutch assembly) to support the bearing fully, so a press-fit adaptor lengthened it 1⅛ inches.

The engine and trans-axle were assembled and the 'Vair rear crossmember box section was notched for clearance of the Chevy vibration dampener and fan belt. The power-train assembly was rolled under the car and lifted into place for a trial fit. The stock forward (transmission) mounts were used, and the engine crankshaft center line was lined up so that it was in the same

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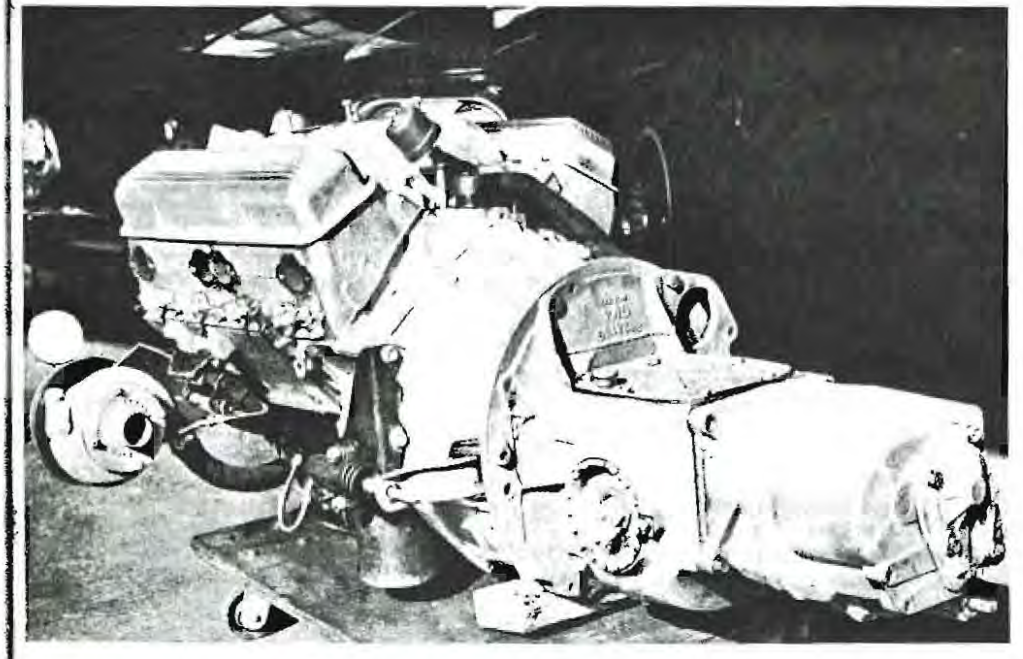
Corvair! Oh yeah . . . sez who?



FAR LEFT – For the one man in four who desires the ultimate takeout, Skip Huth displays his candidate for Ripley's "Believe it or Not."

ABOVE – All buttoned up, the Corvette engine with 'Vair box attached sits ready for hot rodding's one-of-a-kind installation.

BELOW – Hmmmm! Aluminum radiator mounted unobtrusively in "trunk" gives hint of not-so-stock compact ready for bear.

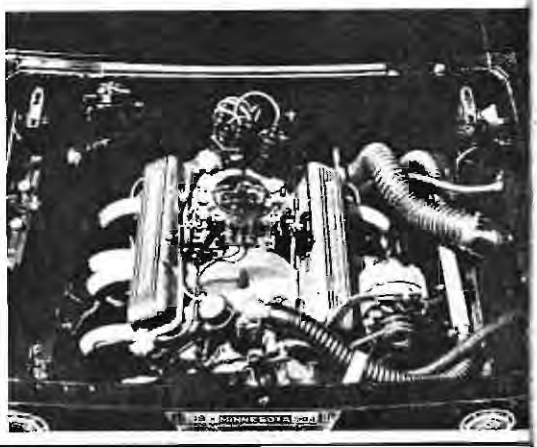
line that the Corvair crankshaft had been. Alignment is critical because the rear end geometry is determined to a great extent by the location of the power train. Once lined up, a cardboard pattern was made for a combination motor mount-crossmember and a piece of two-inch o. d. x 13-gage steel tubing was bent according to the pattern. The tube was cut off on each end and flanges added which were drilled to accommodate an existing bolt in each side rail; two extra bolts were added to complete the mounting. A mount assembly was welded onto each slope of the tube to accommodate stock Chevrolet cushions. The crossmember was made ¼-inch narrower than the distance between the side rails to facilitate installation and removal without cutting the sheet metal splash shields on each side. To take up this quarter-inch and also to distribute the weight over a greater area on the rather thin box-section side rails, ⅛ x 2 x 2 x 13-inch angle irons were added to the frame.

The power train was removed to repanel the indented rear box member. Also, at this time, the vibration dampener was removed and a belt groove turned ⅜-inch (on center) in from the inside edge. Before the assembly could be reinstalled, the engine had to be outfitted so as to rotate the same direction as the Corvair engine. Due to its nonsymmetrical engine design, "flopping" of the ring gear as is done to achieve the same result with Corvair/VW installations is not possible here. A marine reverse rotation kit was installed in the engine allowing counterclockwise crankshaft rotation. The camshaft retains its original direction for proper distributor and oil pump action. The kit consists of two helical gears, which replace the stock timing sprockets and chain, a camshaft, with the lobes displaced accordingly for the reverse firing order (also unfortunately, a milder grind than the stock 340), and a reverse rotation starter. These components are available through Chevrolet Marine dealers.

With the power train remounted in the chassis, the installation was ready for the final touches. The stock manifolds would have worked well, but Huth decided that a clean set of headers would be a good "advertisement" as well as functional. The right and left sides were made identical (symmetrically) except for the addition of two ears to the right side (looking forward) for an alternator mount. Each was fitted with a 3-bolt exhaust flange and then metal-sprayed with aluminum (metallized) at Fleet Supply Co. in St. Paul. Stock Corvair mufflers were used with U-bends joining the mufflers to each header. The stock throttle linkage rod was shortened a few inches and a heim joint added. The bell crank assembly was fabricated from sheet metal and Teflon-bushed thin wall tubing, then mounted on the firewall to transfer motion from the left side of the engine to the right.

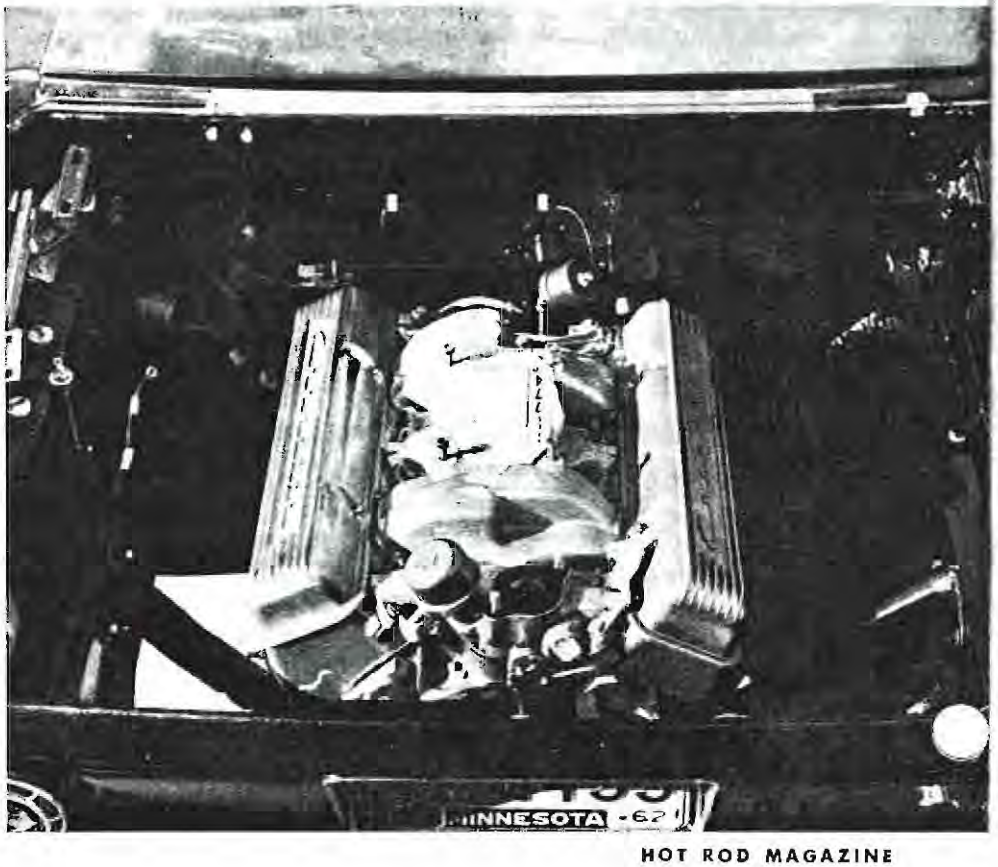
Initially, the stock mechanical clutch linkage was used but proved unsatisfactory, so Chevrolet pickup hydraulic clutch components were installed. These required a special mount bracket for the slave unit and revamping some sheet metal to accommodate the truck dual master cylinder. The clutch pedal was rebuilt to pivot on the same axis as the brake pedal and an extra bracket was added to the pedal carrier assembly. To mate the master cylinder to the pedal carrier a special half-inch aluminum adaptor had to be fabricated. The fluid line was run under the floor.

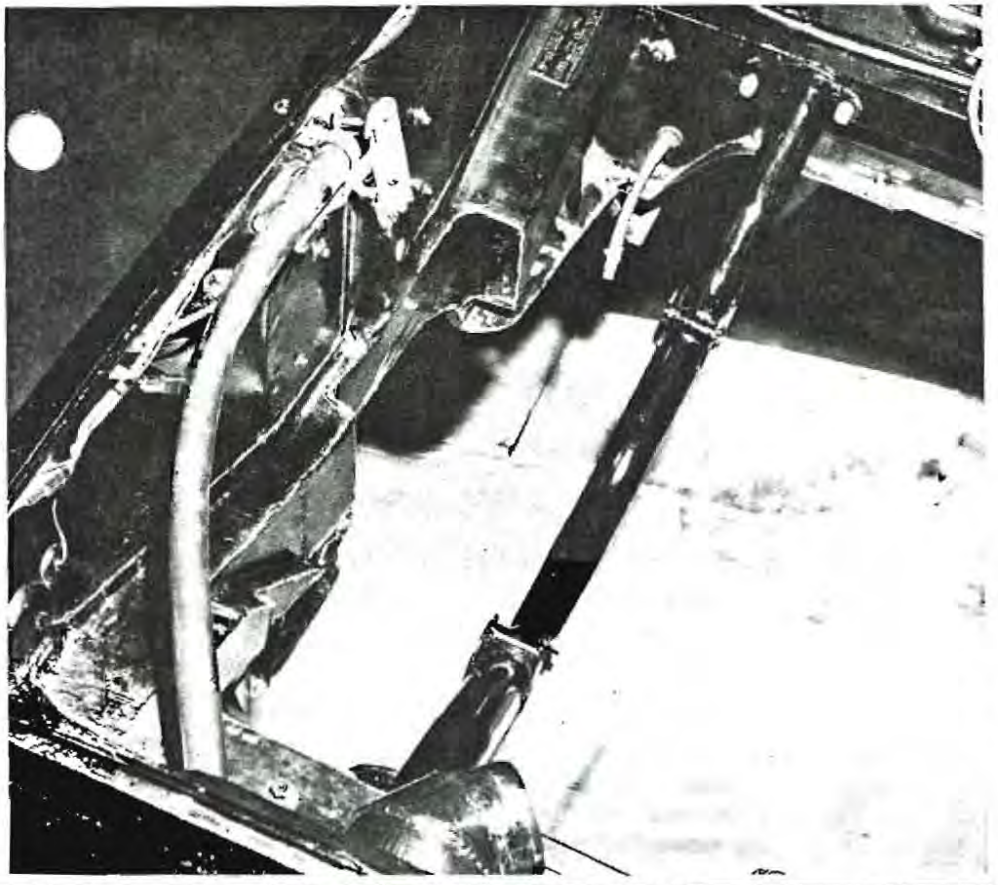
Up front, a '62 Corvette aluminum radiator was mounted behind two openings in the Corvair front grille panel. The radiator was mounted with soft rubber insulators, top and bottom, in conjunction with a 1 x 1¼-inch thin-wall rectangular steel tube crossmember at the top and fabricated sheet metal pads at the bottom. Coolant transfer tubes routed under the car are .065 wall by 1½-inch o.d. aluminum. A liberal area was opened up behind the radiator on the floor to exhaust the hot air, and shrouding was fabricated from .092 aluminum for ducting. A cooling-fan combo was worked up with two '58 Olds heater motors spinning 10-inch, 23-degree-pitch refrigerator blades mounted behind the radiator. The water pump, a Lehman centrifugal type that is normally front-cover mounted and crankshaft or camshaft driven, was fit-



ABOVE – If it weren't that we all knew better, one might almost say that engine appears in its factory slot. Rear weight bias is 3% over stock.

BELOW – Minus all exterior goodies, Corvette engine nestles comfortably in its new home. Notice that lateral clearance is ample and that battery may be maintained in stock location. Factory wiring is acceptable.



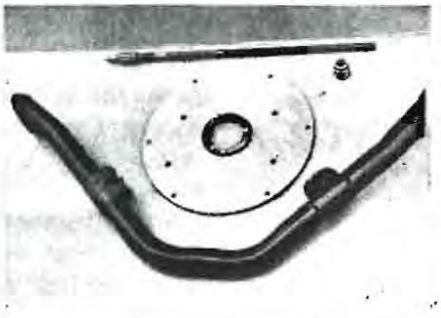


ABOVE – Only major body surgery involved is focused at rear bulkhead which must be notched to clear vibration dampener. Tube crossmember is required to support 'Vette mill. Engine requires reverse rotation here.

BELOW RIGHT – These are the parts required to perform the swap of the year. Circular plate adapts engine to trans; input shaft looks frail but stands up.

ted with a stock Chevy water pump pulley hub pressed onto the pump shaft, and a redrilled 283-inch Chevy crankshaft pulley was mounted on the flange (backward) with a ⅛-inch spacer. This done, three steel brackets were fabricated to mount the pump to the block.

A Delcotron alternator kit (#1961-625), including a 52-amp alternator, regulator, mounting bracket, and a wiring harness, was purchased because it operates perfectly running in reverse rotation. A second bracket was made which mounts on the header flange ears; it allows the alternator bracket to pivot, as well as the alternator itself, so that both the belt which runs from the crankshaft to the outside pulley of the alternator and the belt which runs from the inside pulley of the alternator to the water pump can be adjusted. As indicated, it was hoped that the deck lid would not have to be altered in exterior appearance and by cutting a narrow slot in the inner paneling, the alternator just cleared. Additional space was obtained by machining ¼-inch off the top of the intake manifold and by trimming the inner paneling, plus removing a slight amount of



metal from the lower lip of six of the louvers. A stock air cleaner (with the long snouts cut off) missed, with the lid secured – clearance, ⅛-inch, whew!

A reworked '57 Buick heater, with the two lower inlets capped, was mounted in the area where the spare tire had formerly rested and a piece of flexible heater ducting connected the heater to the stock Corvair upper air inlet. A Corvair heater fan was used, but it does not push quite as much air as is needed for defrosting under adverse conditions so a higher rpm motor should be installed. Surprisingly enough, most of the engine wiring fitted without alteration, except for the Corvair ignition resistance wire (about 56 inches long) that was pulled out of the loom and replaced with stock wire and ceramic-insulated resistor. Water temperature, oil pressure, and amp gages were installed in a stainless steel accessory panel to the left of the steering column under the dash. A special rear grille which would clear the vibration dampener had to be fabricated from a stamped-steel Corvair replacement piece, which Huth reworked by removing a section from its center, and then replacing it with formed ¼-inch rod to clear. The car was purchased with the heavy-duty suspension options and metallic brakes; no alterations were required in these areas except for installing a rubber shim (stock Corvair item) under each rear spring to correct rear wheel camber. Needless to say, traction is not a problem.

Only a couple of questions still need answering, the primary being, "How does the thing run?" After seven thousand miles of "normal" use, all components functioned flawlessly except for the machined input shaft. As a result, a '64 or later box, which incorporates a larger shaft, is the order of the day. The original unit would probably have endured longer but the temptation to stick one's foot in it is hard to overcome. As an additional bonus, the later gearbox incorporates the pads for use of the new, lower leaf spring to improve handling, so you can't lose. Also, due to the additional weight, the ceramic brake linings are a must.

Despite what one might think, the car doesn't handle appreciably different than stock. In part, this is due to increased negative camber at the rear, which yields better bite than before. Also, although the car weighs 300 pounds more than stock (3080 total, 2060 rear and 1020 front), the additional radiator, water, fans and shrouding places some beef on the front end. This situation would have been further improved by installing the battery up there, too, but in the "cool" atmosphere of Minnesota and surrounding environs, short leads and quick starts are synonomous. Anyway, there isn't doubt in anyone's mind that the combination charges, and charges hard at that. Although the owner hasn't reported seeing his reflection in the hood, "wheelies" are well within the realm of possibility for those who are so inclined.

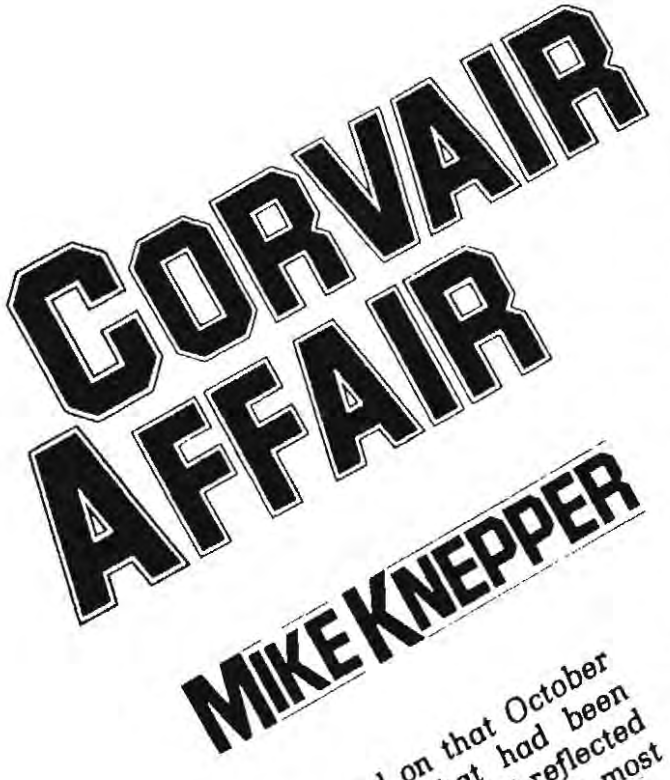
Getting down to cases, the total tab for a kit to duplicate Huth's honker is $348.00. This includes the adaptor plate, high-performance input shaft, crossmember motor mount assembly, pilot bearing adaptor, patterns for gas linkage, slave cylinder mount, frame alteration, water pump mounts and . . . like that. You can be the first in your block to have one. ■■

CORSA MECHANIDISE SPECIAL

Thanks to a Holiday Special we have the following items at reduced prices:

CORVAIR AFFAIR by Mike Knepper	$10.00
1983 CORSA TRAVEL ROSTER A listing of all CORSA memberes	$ 2.00
CORSA Emblem Patches	$ 1.50

See the Mechandise Chairperson at the next meeting. And yes, Virginia, we still have tune-up parts for '60 and early '61 'Vairs.



Here is the only complete history of this dramatic automobile. *Corvair Affair* **first explores the staggering amount of research that went into creation of the car. And with Ed Cole ever in the backgroumd, all this development resulted in a sensational automobile; the public poured into showrooms on opening day. New car introductions were generally big deals in the sixties, but the Corvair's debut was truly special.**

Author Mike Knepper bas completely researched and reports all about those first models and every Corvair that followed, from the snazzy Monzas to the practical utility vehicles. Detailed in this lively book are all the yearly styling, mechanical and equipment features; the spirited turbocharged engines; the exotic-looking Corvair showcars; the famous production-based Fitch Sprints and Yenko Stingers; and much more.

A comprehensive Corvair history would he incomplete without mentioning the car's unfortunate legal controversies; especially in connection with Ralph Nader and the Ribicoff subcommittee. *Corvair Affair* **concisely explains this episode of Corvair history.**

But in spite of its early difficulties the efficient, sporty Corvair thrives today. Mr. Knepper investigates current ownership status and finds the Corvair perhaps more appreciated now than ever before. Owning a Corvair can be great fun and this book tells how and why.

Mike Knepper has been an automotive journalist for more than ten years, leaving his mark of thorough, entertaining writing on such publications as *Autoweek, Motor Trend, Road & Track* **and** *Car and Driver*. **For years he has been fascinated by the lore of the Corvair. With over 140 splendid photographs,** *Corvair Affair* **is must reading for all enthusiasts of this unique car and the American automobile industry.**

Vairs 'n Spares

FOR SALE: '63 GREENBRIER, looks good in and out; auto, air, electric fuel pump, AM/FM cassette, power antenna, roof rack, window film; runs good. Noise in diferential. $2,150 or trade for convertible or Lakewood. Call Bob Jones 298-3528.

FOR SALE: '63 MONZA Coupe, special 4-carburetor engine; black w/ new red interior. A real nice car w/ wire wheels. $2,500 or reasonable offer. Call Gary @ 622-0478.

FOR SALE: TUNE-UP PARTS for 1960 and early 1961. See the Mechandise Chairperson, Cathy McKenna at the next meeting.

FOR SALE: 4-BARREL manifold for 140HP engine. All new, still in box. Best offer. Call Randy Nelson @ 294-1195.

FOR SALE: '66 MONZA w/ air, 4-speed, 4-door, 110 HP engine, new paint. Runs and looks great. Call Sheri Roberts @ 297-6219.

FOR SALE: "SPARES" A very nice antique Singer sewing machine. Everything works. Will take best offer. Call Sheri @ 297-6219.

FOR SALE: ESPECIALLY for the do-it-yourselfers: tune-up kits, distributor caps, wrapped fan belts, air filters & oil filters; also viton O-rings, trunk and engine lid weather strips; plus many other Corvair parts. Call Gordon Cauble @ 299-1122.

FOR SALE: '63 GREENBRIER, 110/4-speed, bolted flywheel, excellent battery, equipped for camping, 12-volt refrigerator, foam rubber bed, drawers, port-a-pottie, carpeted, radio w/ 8-track stereo. Call Alan Gray @ 795-2639.

FOR SALE: '61 FOUR DOOR automatic; one of Brian Lynch's cars. If interested call Frank McKenna @ 885-8571.

FOR SALE: '64 GREENBRIER w/ automatic transmission. '64 engine runs good. Body good - no rust. Doors need repair. $600 OBO. Call Gary @ 622-0478.

NO PARK MALL SHOW !!

The new manager of Park Mall, Tom Cordell, stated that Park Mall has too many car shows and he has new ideas for weekends at the Mall. So I guess wee will join the ranks of the Salvation Army and consider the TCA "Persona Non Grata". When I think of all the time and effort we have spent on this event in past, I get mad. However, there is not much we can do about it. So no Park Mall Show this year, maybe no Cordell next year.

Frank McKenna

TREASURER'S REPORT

Balance December 1, 1985.....$791.63

Income
Copy Service.....9.00

Expenses
Corvairsation.....132.00
Raffle/mechandise..... 48.88
Christmas party.....150.52
Total Expenses.....331.40

Balance January 1, 1986.....$469.23

Alan Atwood

TUCSON CORVAIR ASSOCIATION REGULAR MONTHLY MEETING

* THE TIME: 7 pm, the FOURTH WEDNESDAY of each month.

* THE PLACE: Piccadilly Cafeteria, 6767 E. Broadway, Tucson

Gather at 6:30pm, eat at 7pm - You don't have to eat to attend.

COMING EVENTS

JAN 19 SSCC SLALOM: Ft Huachuca.
FEB 16 Call Chuck Kelley @ 1-458-2685

SASCC SPORTS CAR RALLY: 1st Satyrday of every month, 1pm, Reid Park Tennis Courts.
Call Carl Broberg @ 297-3934

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FIRST CLASS MAIL