

Aug/Sep/Oct 2003

Volume 37 Issue 4



President's Perspective by Doug Pratt

I am writing this just before leaving to journey to the National Rally in Pipestone, Minnesota. and by the time you read this the rally will be history.

I think that this has been a significant year for the UVMCC. Our association with the **Corvair Society of America** should expose more Corvair folk to the Ultra Van, and that could be the future for our favorite campers. We are all having birthdays each year and the time will come for each of us to pass our coaches on to the next generation.

The last Ultra Sounder had some good articles. Thanks to those who made contributions, and encouragement to some of the rest of you have "that story" to tell. Get your courage up, write it and send it to the editor.

Our Summer in an Ultra Van 2003

By - Diane and Bob Galli

Bob and I left home on June 15th, right after seeing 4 of our grandkids graduated from 6th –12th. That is one from 6th grade to Jr. Hi, one from JR Hi to High school and 2 from High school to college. That was a hectic 3 days.

Visited , Grand kids and Great Grand kids, and Cousins in Salt Lake City, then more cousins in Wyoming, from there we went to Custer, SD and visited Jane and Ed Harrison and son David, with Howard and Marsha Boso, very enjoyable time, thanks Ed and Jane.

Then Bob and I went on to Wall, SD and one of our favorite RV parks for over night, as we were on our way to the State Capitol, Pierre (pronounced peer) to see a statue by the sculptor of Chief Crazy Horse, it is of 2 fighting stallions, and dedicated to the governor and his staff who perished in a plane crash. The camping is unique. It is a city park. There are 3 telephone poles in what was the parking lot, and each pole has 4 receptacles for electric hookup for a RV, so 4 RV's can park around 1 pole, we had 5 on our pole. Bob and I were there for the 4th of July stayed for 4 days. Very enjoyable, heat and all, we were able to have the awning out, and use the A/C.

Then it was on the road, a night here and a night there, a few nights elsewhere, on our way to the **CORSA International** convention in Carlisle, PA.

Got to Carlisle and had a very enjoyable time, Jim and Roy Davis and we were the only Ultra Van's in attendance, Jim entered theirs in the **Peoples choice , specialty Class**, and took **1st place**. Bob and I took the plaque to them later at their place in Murray, KY, I get ahead of my self here.

Corner Photo: The Galli's #504 somewhere on their Summer Trip!

ULTRA VAN MOTOR COACH CLUB'S

Ul t r a s o u n d e r

From Carlisle Bob and I went to Cumberland, MD to visit Louie and Maybel Griggs. Two, we are happy to call friends. Had a delightful over night there, then on down the road we went to Virginia, North and South Carolina, Georgia, and on to Alabama, to visit Walt Davison for a week. You have to be a masochist to go to Alabama in July and August. We always have a good time with Walt so who cares that it was 95° with a heat index of over 100°, and the humidity 100% .

From Walt's we drove to Mississippi and drove the Natchez Trace, to Tennessee, and then on to Murray, KY to visit, Jim and Roy. On the way there, we came upon a narrow bridge, in Tennessee, so I waited till the car on the bridge cleared it, I had to make an almost 90° and as is always the case, the rear failed to follow the front , and I heard a BAD screech and crunch. I drove on to a wide spot, Bob got out and inspected the damage, we drove on to an RV park, and he pulled the pushed in spot, out, and it "don't hurt no mo". PHEW, was I glad.

Then on to Jim and Roy's, and a nice visit there and a good rest for a few days, We all went out one day and had a good time being tourists.

We left there and proceeded on up through Illinois, Indiana and Ohio, on our way to Clyde and Kaye Stanton's "State Park", and RV park.

From there we headed North to the U P of Michigan, a favorite way of ours, and across Wisconsin by a little 2 lane highway, State Hwy. 70. There are some really pretty towns on that route, you know they are small, when you drive in and see signs saying, "Happy 60th Birthday, so and so". Saw things like that in a few of the towns.

Stopped in Hinckley, MN at another stopping place we like, an Indian Casino. Good food, and I cashed out over \$500 on a poker machine. They have a really nice RV park there. From there we went to St.Cloud, MN. Been there before too. Nice RV park a mile from the center of town. Stayed there a couple of days, before heading for a State Park we know on the way to Pipestone.th

We were still in their computer. Got the same spot we had the last time we were there, but as it was Labor Day Weekend, we lucked out and got the last spot with electricity. After staying there 4 days we went back to Marshall, MN, to go to WalMart, and the Hy Vee grocery store. Before going to Lake Benton for about 4 days.

Lake Benton is 15 miles from Pipestone. A County park with showers, and electric and water for \$15 a day. It's a pick a site then pay, and it's the honor system too, you take an envelope and put your money in, with your name and site number. Nice and shady too, Lake Benton is in the heart of the wind generators that Enron put up to harness the wind and provide electricity for the surrounding country side. Could hardly wait to get to Pipestone so we went down a few days early, like about 3 days early.

On Sunday, Carl and Nancy Cowan our congenial owners of the RV park went to the rodeo and left Bob and me in charge of where to park everyone, yes, they left us a map with the names in the appropriate sites. What fun, wouldn't want it as a permanent job though, in fact Carl and Nancy have sold the Pipestone RV park and the new owners take over in April.

On Monday my work started with registration, announcements, and welcome gifts. Crafts for the ladies, and tech sessions for the men, everyday ws well attended, coffee was served and the ladies provided the "morning Dee lights" as I like to call them. We had one potluck, had lots of dinners out.

One night I had just had Bob put the corn on the "Barbie" when Lew young and Forrest gist came over to ask if Bob and I would like to go to town to eat. Well it didn't take me long to tell Lew to turn off the BBQ, and away we went. Doesn't take much to get me to not cook.

The Ultra's turned out in force for a parade through the town of Pipestone, Bob and I had to beg a ride in Jim and Martha's coach, as the ballast resister in ours decided on the point of departure, to take a sabbatical and not work. I will say that was the ONLY problem we had the whole trip, well except for me hitting the bridge.

The Banquet was very good, it was catered by a place in Lake Benton, we had two speakers from the local Indian museum and gift shop, The Keepers of the Light I believe is what the place is called. They told Indian legends and were very interesting, after that was the Installation of Officers. And the presentation of the Ernie Award, needless to say I wasn't quite as speechless as Marion was last year , but it was close. I had never dreamed I would be the recipient, and I just hope and pray I can live up to the honor I feel has been bestowed on me. I would like to take this time to say thank you to my husband Bob, first and foremost for all his support, and then to all of you who made it possible by voting for me. Thank you from e bottom of my heart. It is indeed an honor and a privilege to wear this medallion at all UVMCC functions.

As a lot of you know, Bob and I had a Grandson getting married on September 20th, and we didn't leave Pipestone till the 14th.

Got about 75 miles away and got a call from Roy and Jim, they were in a rest area in Clara City, about 75 miles North of Pipestone, and the differential was broken, knowing Bob and I had one in the coach, actually we had 3, he got when we were at Walt's, from Walt. So back we went to meet up with them and get the differential out of the back of our coach for Jim to get home with. By this time they were in a spot at an RV storage, repair and sales . Full hook ups, and COLD. We stayed the night, and left in the AM proceeding on our way home, we were about a 3 day trip from home on the day of the wedding, we would never have made it in time, did get to talk to the Mother of the groom, our daughter, Roberta, brother of the Groom and the Groom himself. Not quite like being there but better than I had hoped for, thanks to our youngest and her cell phone.

Now we are home, and waiting for a visit with Walt, before leaving for the rally at Jim and Marlene's in Joshua Tree, followed by the Great Western Fan Belt Toss and Swap meet in Palm Springs.

Hope everyone has a good summer, I guess you know we did.

Hope to see lots of you next year in Iowa at the White Breast Campground for the UVMCC National September 9-13th I believe are the dates Ron Zoutendam has reserved. Looking forward to it . Not to mention before that in June is the CORSA convention in June, the 15th to the 20th, I think in Lexington, KY.

That's all folks.

Dues are Due

Please look at the mailing label of this newsletter to determine if your 2004 dues have been paid. If the right end of Line 2 on the label reads '03 you need to send a check for your 2004 dues.

Dues are still only \$15 US a year. One of the hardest things I have to do as UVMCC treasurer is to drop those who do not renew by year end. A few members always fail to pay their dues by January which results in extra club expense to send out a special notice. This is extra work for some club members.

When you pay your dues, take a few minutes to complete the tear-off section below so your address, phone number and email address will be correct in the Ultra Van Club database. This information in the database is the only way we can print newsletter labels and directory information. We expect a new directory in early 2004.

Also, it is now possible to send the Ultra Sounder over the internet if you want it that way. The advantages are you get it sooner, it comes with color pictures and it helps keep the costs down. This means we can still keep the dues at \$15 in Canada and the USA for the foreseeable future.

Your co-operation in getting your 2004dues in as soon as possible is greatly appreciated.

Sincerely,

Marion Helmkey
UVMCC Treasurer.

Coach Number _____ (Please put your coach number on your check)

Name _____ (Please include your spouse.)

Address _____

City _____

State & Postal Code _____

Phone Number (____) _____

Email address and/or Fax No. _____

Send Ultra Sounder by email? Yes _____ No _____

Please complete and mail with dues check (made out to **UVMCC**):

To:
Marion Helmkey
73 Sargent Street,
Haines City, FL 33844

Ultra Van International Rally September 8-13,2003

The Rally began on **Monday the 8th** of September, most of us being in place on **Sunday , the 7th**.

Due to the pre registrations I already was ahead in getting that going, there were very few who didn't pre-register, and it all went very smoothly. The **Silent Auction** was gotten under way that day too, it ended on Friday, the 12th at 11:30 AM.

At 3 PM was the **UVMCC Directors** meeting. The rest of the day was free to visit, and or go see the "sights " of Pipestone, the monument, museums, downtown.

Tuesday, was more registration for the "stragglers", Crafts and tech sessions followed the 9 AM coffee and morning "Dee lights". I presented a craft of a welcome sign for the garden made with glass tiles on a bass wood board I had stained and varnished prior to coming . They all turned out very nicely, Marsha had several crafts for the ladies too, and the morning and afternoon were spent doing crafts. The fellows had Tech sessions set up by Jim Davis. No activities were planned for the evening, some of us went to town to eat out at the local hotel, and or "greasy spoon".

Tuesday also brought visitors from the **Minnesota Corvair Club** to camp over night and visit the group and get to know what an Ultra Van is like inside and out, Corvair, V-6 or V-8's and diesel powered.

Wednesday was a repetition of Tuesday, except for the rain which came and dampened the ground, made puddles on the floor of the hall, it rained so hard I couldn't be heard normally, so I resorted to using the "mike". Wednesday was our only pot luck and Bob had asked a local person to come give a talk on making arrowheads and spears, well, as the poet Bobby Burns said; " The best laid plans of mice and man aft gang a glie". Well they did, the speaker never showed, so Bob gave an impromptu talk on what the man did, and passed his arrowhead around the room for all to see, as he told some of the local history about Lake Benton and Pipestone. He did a great job.

Thursday, we had a short prayer in commemoration of **Sept 11, 2001**, and talked about it some, then we had the usual morning announcements, and as it was raining , went touring, shopping for the **Yankee Swap** that night, if we didn't come equipped. I must say the Yankee Swap was one of the most



fun we have had, and yes, Doug was last again. I don't understand how that works, if it isn't him it's me. This year it was almost Howard Boso.

Friday, the 12th, after coffee and announcements, we had the East and West business meetings at 10 AM. The Rain had stopped, the sun was shining, so the West adjourned to the out of doors for their meeting. The **Silent Auction** ended at 11:30 AM, so the high bidders got to pay up for what they bought, there was a lot of goodies for sale this year. 2PM was the **General Meeting**, where we learn all the news, the ballots are counted, the new officers who will be installed at the banquet that evening are announced. At 6 PM we all showed up in our "best bib and tucker" for the banquet, which this year was catered by a local catering company, the food was very good, we had 2 local Indian (Native Americans) who joined with us for the banquet, and after dinner regaled us with local Indian lore and legends.

After that was installation of Officers, and the Ernie Award. Doug Pratt was the installing officer. Yours truly was the recipient of the **Ernest Newhouse Award**, a most surprised person I might add. So surprised I forgot to thank my Husband for being behind me all the way, and helping in all our endeavors. I do thank the members of the club who thought I deserved this award by voting for me. I appreciate the confidence you have in my abilities.

Doug gave certificates to the officers and directors who served with him. Thank you Doug! Every evening there was the usual card games, a puzzle was worked, Euchre was played by those men who are euchre players.

I would like to thank all the Western members who made hosting the rally a pleasure. Even those who couldn't be there contributed, Threasa Vandersteeg sent a couple boxes of goodies to be given out, we put them on a table with a can for money, and had our own "silent Auction" on going for the rally,

and the end result was \$75 for the club, thank you very much Threasa. One other thing was the fact that came to light **Louie and Maybel Griggs** were the only **original owners who still have their coach, in attendance.**

In spite of the rain and cold we had a good time.

On **Friday**, the owners of the RV Park got the Sheriffs Department to provide escort duty, and we all lined up and had a **parade** through **downtown Pipestone, MN.** All those funny looking vehicles in a line is a very impressive sight.

Saturday morning, September 13th, was our going away coffee and prayer to speed us on our way. Clyde Stanton gave the invocation. Then it was time to say good bye and clean up the hall and set the tables back to where we found them. Another group was waiting to take over at 12 noon, but we managed to get out of there by 10 AM. It was a sad note saying good bye to our friends, but on a happy note, we will be in touch all year, and meet again in **September of 2004** at a Rally in Iowa hosted by the Eastern part of UVMCC.

There were **16 Ultra's** in attendance, 3 other brands, 1 tent, and the rest in Motels. We had **48 total members** in attendance. Thank you all for coming and helping to make this a success, we sold all the T shirts too. If I missed anything I will say sorry I didn't mean to .



Clyde Stanton's Coach & Trailer



Ten onboard Roy and Jim Davis' Coach!

Respectfully submitted:
Diane and Bob Galli
 Western Rally Co-Hosts



Winter Western Ultravan Meet 2004

*Hosts: Howard & Marsha Boso
1536 West Roundup Street
Apache Junction, Arizona 85220
Phone (480)288-2636
Cell Phone (480)518-4103
E-Mail Hamboso@juno.com
Dates February 10 - February 14, 2003*

Come join us for fun in the sun. Enjoy good fellowship, fun & food. Plenty of parking, electricity & water available. No sewage dump(come with empty tanks). Local interests include Mall shopping, great restaurants, dinner theater & old western town. Welcome barbeque will be given on the first night (Feb. 10th at 6:00PM).

*Directions: Coming from West...Exit Freeway I-10 going east on I-60. Exit I-60 at Ironwood exit and head north going past Southern, Broadway & Superstition Boulevard(Four way stop). Still heading north turn right on second street on east side. We are the second house on the north side of the street.
Watch for Ultra sign!.*

EASTERN SPRING RALLY
Christmas Airstream Park
25625 E. Colonial Dr.
Highway 50 East
Christmas FL.

Hosts: **Clyde & Kaye Stanton**

Date in 22th of March and out on the morning of the 27th. We can come in one day early and stay one day after for the rally rate. Rally rate will be \$16.00 per night. Fees will be collected at rally. We will park in back by Miracle Hall. Schedule of events will be given out at the rally.

Our phone # is **269-795-9078** or E-mail us at **ptlstan@webtv.net** if more information is needed.

2004 National Rally

I just made the reservation for the 2004 National Rally! I have reserved Group Camps #1 & #2 at the Whitebreast Camp Ground, a Corp of Engineers facility at Red Rock Lake (IOWA) for the dates of Sept 13-19 (Saturday to Sunday), 2004.

Ron Zoutendam



Camping for the 2004 CORSA International Convention

The **CORSA** international convention will be held in downtown **Lexington, Kentucky June 15 through the 19, 2004**. The host hotel is the **Hyatt Regency**. Unfortunately there is no overnight camping allowed in the parking lots of the hotel per hotel policy.

From the initial stages of planning this convention two years ago I have kept the Ultra vans and the campers in mind. Located six miles and a straight shot to the host hotel is the **Kentucky Horse Park Campgrounds**. The campgrounds are beautifully secluded, modernized & affordable. The campgrounds policy is first come first serve. They do not take reservations unless there is a minimum block of twenty and then they also require the fee of the first nights lodging in advance. What we do have to offer is a **560-space parking lot** rented for the week at the host hotel that will be used solely for outdoor vending and parking for conventioners staying at the campgrounds and hotels other than the host hotel. This will allow these conventioners an alternative place to come so they can come visit the convention during the day and not have to worry about finding a place to park. We will keep you updated on any changes and closer to the convention we will be putting together a list to reserve a block at the campgrounds so everyone can camp together. We just wanted to get the word out early so if you're planning on camping you will know what to expect. We apologize for any incontinence this might cause.

We have numerous fun activities planned throughout the week and we hope everyone can make it. For more information visit our web site at www.kycorsa.com or the horse parks at www.kyhorsepark.com.

Hope to see everyone here in 2004!!!

Greg Scarboro
Central Kentucky Corvair

Our trip home by Ken & Penny Wildman

Our trip home was pretty typical for us returning from a Rally. We left late, a little before noon, stopped often, and just took it easy all the way back.

Our trip out to Pipestone was mainly by I-90 so we could see the Wisconsin Dells. Now, we've seen them. :) We decided to try a more scenic route home. So, we took US 75 south to US 20 and used that all the way to Rockford, IL.

About half-way across Iowa, we pulled into a truck stop for gas and found a bunch of guys just leaving the annual Doodle-Bug Scooter rally in Webster. They were all over the Ultra and we had a good time swapping cards, scooter stories, and names of common friends.

The **Doodle-Bug** scooter was a very small scooter, about the size of the electrics that were buzzing around the Pipestone campground. The gas engines were under the seat. To the uninitiated they look like miniature old-style **Cushmans**.

Leaving the Doodle-buggers, who said they might travel down to Pella next year to see a pod of whales, we continued on US 20. The road was two-lane and very hilly in the west, but got smoother and added lanes towards the east. It was a beautiful drive and we really enjoyed the scenery. Crossing the Mississippi into Illinois, we dropped down into low gear for the first time on the trip. The climb out of the river valley is steep and the views are breathtaking. We saw many little towns that would be fun to live in.

As usual, we met lots of people in campgrounds and at gas stops who were intrigued by either the coach, Harry, or both. :) The combination of little coach and big dog is a guaranteed head-turner.

As I told several folks at the rally, #338 is running better and better every year. It seemed comfortable running at right around 63mph (or about 3200 RPM). At that speed it hardly slows on hills. This is about 10 mph faster than it seemed to cruise when I first bought it.

I attribute the performance gains to a combination of frequent use, synthetic oil, and a high level of preventative maintenance. Oil and filter changes are made at less than 3000 miles, and the automatic transmission fluid is changed every other year. I call it "over-kindness" not "over-kill". :) Also, since I'm not a mechanic I don't carry a lot of spare parts. I have a spare belt, oil filters, oil and tranny pan gaskets and some pump parts. If we ever have a serious break-down, we'll treat it as another adventure - get towed to suitable facilities and mail-order whatever parts are needed.

My confidence in the coach is increased by having tow insurance and also carrying enough cash/credit to pay for a tow home if necessary. The theory we operate with is: do everything possible to maintain the coach **BEFORE** leaving home, have guaranteed towing, and then **RELAX** and enjoy the drive. It works for us. :) Looking forward to our next Ultra trip,

Our trip home by Jim & Martha Isbell

Didn't have a speck of running gear/ engine trouble until 200 miles from home when we slowed down from a long highway speed cruise and the engine died. We tried restarting and it would restart, but not pull. As soon as we put it in gear it would die again. I opened the engine cover and saw immediately what the problem was. The hose from the crank case to the carb had hardened from heat and slipped off the carb letting in a lot of air to thin the mixture. Put it back on and applied a pair of hose clamps, scavenged from the water system, and we were off again only losing about 5 minutes. We averaged well over 16 MPG for the whole 2700 miles. On one run we got 21 MPG!!!

But now it is over running when I shut down so I must still have a lean mixture. Probably all the hose has to be replaced with something that can take the heat.

But on the accessories we had problems from the start. The first day out the Propane refer quit so we used an ice chest. On the second day the water pump failed so we had to use plastic milk bottles to carry water in (this is why I had two hose clamps available for the crank case breather later.#8-). Then on the third day the toilet broke off the arm that holds the spring to keep the valve closed. Stopped at an Ace Hardware and for \$0.89 I got a bungee cord and made a temporary fix that lasted for the two weeks we still had to go.

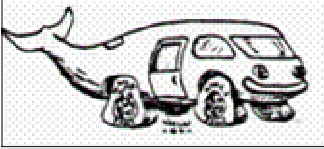
All in all it was a great trip and the problems were just a chance to show off the resourcefulness of the occupants.

We are still trying to get the sewer system in here in Ingleside On the Bay. The city building inspector has assured me that I will get a sewer dump connection into the bargain when they hook my house to the sewer. So we should have a really nice place for the Ultra with full hookups. Of course you wont have to stay in your ultra...unless you want to...since we have two spare bedrooms just waiting for guests.

I am now looking for a Diff that is in good condition or at a minimum rebuild able with no badly worn shafts. The one in our coach has always had a very dim hum that you can just barely discern when you are going up hill (could be the shafts that are not perfectly phased as well) that wasn't noticeable for the first two years because everything else was making so much noise. But now that I have the rear hubs replaced (sounded like gravel in a stone polishing drum) and all the bad U Joints (two had NO pin rollers in them any more!) replaced so the noise level is down to a conversational level, I can now hear the Diff. I really don't want to replace it because its a Posi Trac and I know what I replace it with wont be. Maybe the Posi Tracs make more noise than the others...I hope...I hope...

Also looking for a spare engine (1967 95 Hp) that I can rebuild and keep for a spare.

(ed: Both stories rewritten from emails sent to UV chat group)



TECHNICAL WHALE TALES -- TIPS AND ARTICLES

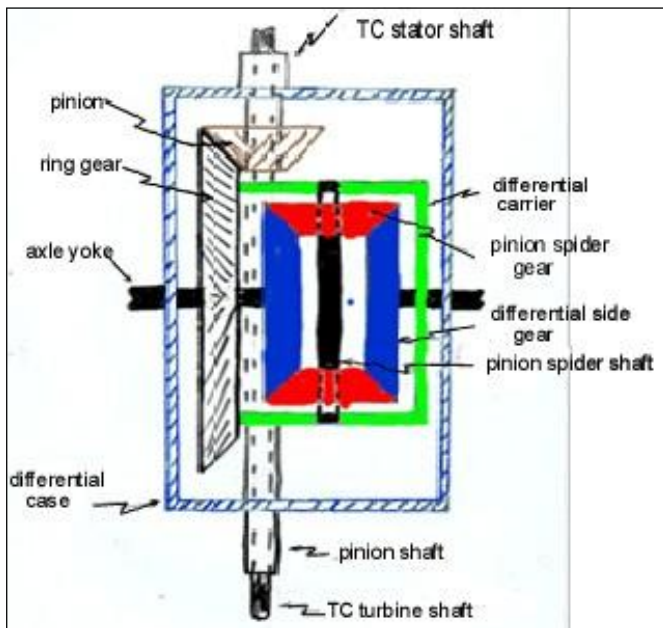
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THE DIFFERENTIAL

WHAT IS IT ALL ABOUT?

By **Jim Davis**

As the name implies, the purpose of a differential is to allow wheel speed differentiation. That is: when turning a corner the outer wheel must revolve faster than the inner wheel, thus having a differential speed. In cars with longitudinal engines, it also serves to redirect the power at right angles to the rotation of the engine's crankshaft. This little box must also transmit the engine's torque as multiplied by the transmission. A 95 hp engine makes 120 ft lbs of torque at 1,600 rpm. Multiply that torque by the 2.6 torque converter multiplication and the 1.82 low gear multiplication for a total torque multiplication of 4.73:1. This gives a total of 568 ft lbs of torque the differential must transmit. So just what is in that little 80 pound box?



The heart of the differential is the carrier and cover plate. The

carrier contains two side bevel gears that are attached (splined) to the axles, which are mated to two pinion spider gears. The four gears are arranged in a square with the pinion spider gears continually meshing with both side gears. This allows one side gear to rotate independently of the other. Power comes in from the pinion shaft and is transferred to the ring gear by the pinion gear. The ring gear is bolted to the carrier and the torque of the carrier is transferred to the pinion spider gear shaft. So, the pinion spider gears actually carry the entire torque of the engine. Finally, torque from the pinion spider gears is transferred to the side bevel gears and thus, to the axles.

So what is positraction. Remember, I said the spider gears carry torque to the side bevel gears. Well, this allows the wheel with the least traction to get the most torque. That's right the wheel that is least able to grip gets the most power. This is not a desirable condition. Positraction uses a modified cover plate to hold a clutch pack, Belleville washer and preload spacer. The clutch pack is preloaded by the preload spacer against the Belleville washer to a preset torque. This torque preload is approximately 50 to 80 ft lbs in the case of the Corvair differential. That means that the differential's tendency to deliver the torque to the wheel least able to handle it is resisted by the clutch pack. Of course this resistance is limited to the preload of the clutch pack. This small torque is usually sufficient to get the vehicle out of limited traction situations. Note that there is no way to disengage the clutch pack when turning a corner. The grinding clunk you hear when a hot differential makes a tight corner at slow speed is the positraction clutches resisting that turn. GM's special limited slip differential additive usually quiets the noise. The stock carrier cover plate is relatively weak. It can separate at its weak point. This is usually not a catastrophic failure but can result in drive

to only one axle. A heavy duty positraction cover plate is also available, which allows an increased preload to 100 ft lbs, greatly increasing effectiveness of the positraction operation

A small discussion of ring gears and pinions. The simplest is the straight-cut (spur) bevel gear type. It is strong and reliable, but is extremely noisy and the pinion must be centered on the ring gear (the center of the pinion shaft must be normal [at right angles] to the center of the ring gear). The spiral-bevel ring and pinion solve the noise problem but still the axes must be normal. These arrangements won't work on a Corvair because the pinion shaft must pass through the differential and the carrier is in the way. So, the third type is the hypoid ring and pinion. Here the pinion shaft is raised or lowered from the ring gear center line. In the Corvair, it is raised to allow the pinion shaft to clear the carrier. This movement is not without its liabilities. In the straight cut and spiral-bevel gears, the gears are in rolling contact. There is no sliding contact. With hypoid gears, there is both sliding and rolling contact. This sliding contact produces much more heat than the pure rolling contact and requires an entirely different type of differential lubricant. The lubricant is designated as EP (extreme pressure) to combat the rubbing of the gear faces and also should have a multiple viscosity rating (75w-90).

Well now that we understand the basics, what can go wrong? The Corvair differential contains a 6 inch ring gear. This gear and its mated pinion can handle 900 ft lbs of torque, well above the maximum of 600 ft lbs supplied in our applications. The first weak point is the splined interface between the pinion and pinion shaft. A "spun pinion" is a too often occurrence. It is Walt Davison's opinion (to which I subscribe), that any time a pinion is separated from its factory mated shaft (shrink fit) the pinion/spline interface is seriously weakened and subsequent failure is a matter of time. Another failure mode is the loss of pinion shaft preload. When the differential is assembled, the pinion bearings are preloaded to 9 to 11 inch pounds (with new bearings) turning torque. For what ever reason, if the shaft loses this preload; the pinion will walk back and forth on the shaft (back, going down the hill and forth up the hill). This will wear the splines, which eventually will fail. A welded pinion and pinion shaft or hard copper plating the pinion shaft are possible solutions for using an

unmated pinion and shaft.

Perhaps now is the best time to talk about differential lubricant (rear end grease). At either end of the differential there is transmission fluid under pressure (torque converter at the back end and powerglide on the front). The differential lubricant is not under pressure. Transmission fluid (under pressure) passes through the pinion shaft to supply the torque converter and back from the torque converter to lubricate the front pump shaft, the torque converter output shaft, and the transmission output shaft. There are two lip seals and a sealing ring to keep the transmission fluid out of the differential. Should any one of these leak, then transmission fluid will mix with the differential lubricant. Transmission fluid has a viscosity of approximately 5W-10 and has no EP additive. When the differential lubricant is diluted with transmission fluid, differential failure is imminent.

So what else can go wrong? Say you are on a muddy shoulder just off the interstate shoulder; traffic is heavy. You decide to pull out and just beat the truck. You floor it and start to move. The left wheel climbs onto pavement and gets grip; the right continues to spin. Suddenly, the right hits the pavement and gets a grip. The transmission and differential must absorb the entire rotational inertia of the engine and torque converter. The weak link in this scenario are the pinion spider gears. These gears only engage the differential side gears with one tooth. These are very hardened gears and thus brittle. They really don't break but rather shatter and the shards of one will also destroy the other pinion spider gear. Four pinion carriers are available but are not necessary for most of us who drive prudently.

The output shaft of the Powerglide is splined on the inside and the outside of the pinion shaft has matching splines. There is a very slight clearance between the splines to allow for a mismatch (not in-line) in the axis of the two shafts. Each forward and reverse cycles the contact patches on the splines. The harder the transmission gear engagement, the greater the wear. These splines can wear enough so that there is insufficient spline depth to transmit the power. While this failure mode is most prevalent in manual transmissions, it is not unheard of in Powerglide vehicles. Whenever the transmission is separated from the differential, the

splines should be checked for excessive wear.

The splined axle yokes slide into the splined differential carrier and are held in by the yoke retaining bolt. Over a period of time, clearance between the carrier and yoke can open up. This will cause the yoke to wobble and vibrate. Hard copper plating the yokes will cure this vibration. There are two styles of differential yokes, the 1965 and 1966-1969. The forgings are the same but the 65 is drilled and tapped for 1/4-20 bolts, while the 66-69 is drilled and taped for 5/16-24 bolts. The 65 yokes can be redrilled and tapped to the larger bolts.

Why this article? Well, recently I spun a pinion in my Ultra. I had carefully assembled the pinion and pinion shaft from good parts. I heated the pinion to 500 degrees before placing it on the shaft. I carefully set the preload to 8 inch pounds (old bearings). Sometimes, it is not your day. A year ago Beau's original differential lost its preload and started to sing. After 200 miles to limp home, the pinion literally fell off the shaft when it was removed from the differential (Sound familiar, Norm?). Somedays you are just lucky to make it home. Lest you worry about what might happen, there are those Ultra Vans which have had no differential problems in hundreds of thousands of miles. Life in an Ultra Van is definitely an adventure!



<== Breather Modification



Carrier, sidegear,
pinion spider gear ==>



<== Pinion shafts



Positraction cover,
HD, stock, clutches ==>



Spun pinion &
<== Welded pinion



Torqueconverter,
Stator shaft & TC seal ==>

Coaches and Parts For Sale

1968 Ultra Van #309, Mileage: 95,100. 140 hp engine with powerglide; engine rebuilt 15,000 miles ago (very strong, good low-end torque). Upgrades: rear channel type bumper, dual master cylinder, bell crank 1/2 " bolts, electric fuel pump override, Tires have about 5,000 miles. Spare parts include: transmission, 110 hp engine, starters, and many small parts Also extra rear wheel bearing assemblies, extra bearings and seals—front and rear, alternator, idler pulley,, coil, Ultra Van manual. Fold-out couch with storage beneath. Kitchen in excellent condition. Original shower and toilet. Pitting started on black water tank. She's dirty, but beautiful. Call **Glenn Hull** at (973) 948-6555 or reach him by e-mail at ghgh@nac.net. Asking \$6,500 including spare parts.

1970 Ultra Van #525. Has a Like New 200 horsepower factory computer controlled, fuel injected, Chevy Vortec 4.3 Liter V6 engine and four speed automatic overdrive transmission. New tires, brakes, electronic ignition water heater, electronic ignition stove top, upgraded 3wayrefrigerator. Corvair White Emron paint outside and cherry paneling inside. Has roof A/C, roof Evaporative cooler, and dual dash automotive A/C units. Aluminum bumpers with trailer hitch. Superior performance and great gas mileage. Excellent condition. \$8000. Bob Reinhardt, Las Vegas, Nevada. (702) 870-6187. (Note: my e-mail is not reliable.

1972 Ultra Van #601: Hi Everyone! I am considering selling #601 in order to start a business venture in Mariposa. For those of you that don't know the history on this coach it was Dave Peterson's personal coach. Is anyone out there interested or know someone that might be? It is running and moveable but has not been driven in over 5 years (needs a full restoration inside and out). It comes with a lot of spare parts such as extrusions, glass windows, 2024 aluminum sheets for body repairs, sinks, bell cranks, tooling for A-arms, 307 Chevy V8, 283 Chevy V8, power glide transmission, extra assembled front body structure and rear body structure, stove, and many more items. Please call or e-mail if interested. Thanks **Ed Gurr**: (510) 909-3435, (209)742-7469, Ed@runco.com

P. W. Donaldson

Long time club member and our close friend **P. W. Donaldson** passed away on **Friday, Oct. 17, 2003**. He had been ill for some time. Services will be at the burial site, 11:00am ,Oct. 22., 2003, at the El Camino Memorial Park, San Diego, CA.

Letters/cards only to his residence
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The Ultra Sounder is the bi-monthly publication of the **Ultra Van Motor Coach Club**. The UVMCC is dedicated to the preservation and enjoyment of the Ultra Van. Membership is open to anyone that has an interest in this unique vehicle. Please contact either the Secretary or Treasurer for applications. Dues are \$15.00 per year.

All reports of Regional Rallies, advertisements, or other input for the Newsletter are to be sent to the Editor. There is no charge for advertisements; please allow a 3/8" margin on top and sides, and a 3/4" on bottom of copy (to make room for page number), preferably using black ink. Any handwritten copy that you want typed should arrive two weeks before the deadline. All dues are to be forwarded to the Treasurer. Look at your address label -- the number after your name is the last two digits of year thru which you are paid. Material for the Newsletter can be folded. Technical tips are to be sent to the Technical Coordinator. Amendments to the Bylaws are to be sent to the President.

Newsletter Deadlines: Jan 5th, March 5th, May 5th, July 5th, Sept 5th, Nov 5th.

RALLY FLYERS ARE TO BE CAMERA READY AND SENT TO EDITOR BY REGULAR MAIL or EMAIL BY DEADLINE!

First Class

UVMCC

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