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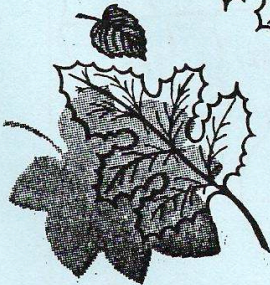
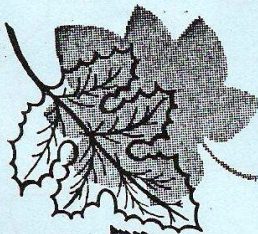
FALL Newsletter 1993



Maybel Griggs, Secretary
626 Brookfield Avenue
Cumberland, Maryland 21502

ULTRA VAN MOTOR COACH CLUB, INC.

a Taste of Fall



The content of this ULTRA mailing is made up of reports, flyers, illustrations, and/or articles prepared by a number of fellow Club members. The information contained herein was compiled from sources believed reliable, but its accuracy - and the written statements and opinions based thereon - cannot, of course, be guaranteed by the Club or each author. Errors are possible, although the objective is to present only carefully checked and accurate information.



ULTRA VAN MOTOR COACH CLUB, Inc.



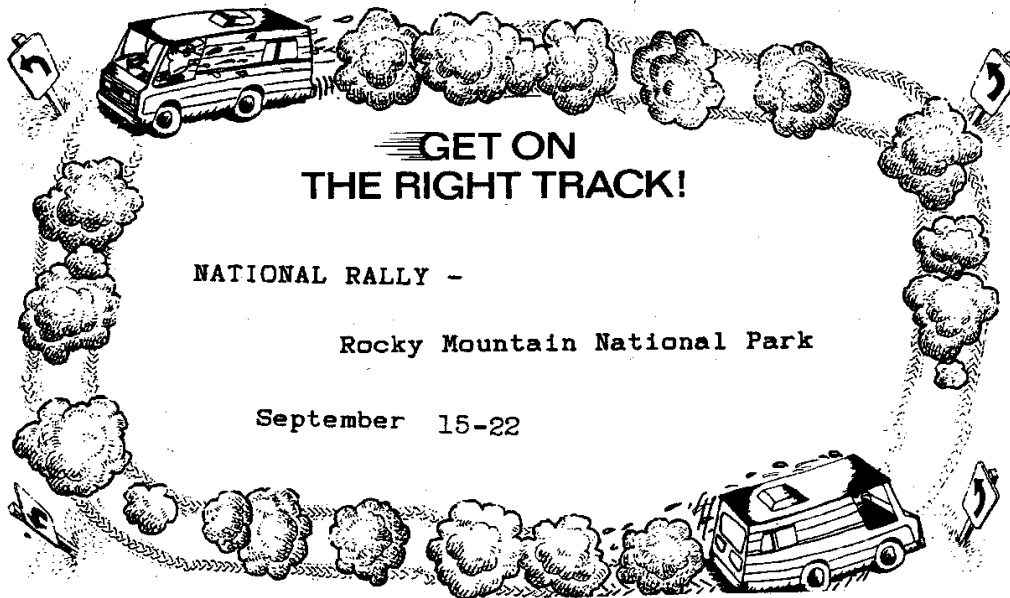
Officers, 1993 Ultra Year:

President, Leonard Tekaas, #220; Vice President, Norm Helmkey, #547;
Secretary, Maybel Griggs, #334; Treasurer, Louis Griggs, #334.
1992 Ernest Newhouse Award Recipient, Warren Suckow. Technical Coordinator,
Norm Helmkey, #547 (Corvaair), Len Ryerson, #513 (V-8).

All reports of Regional Rallies, advertisements, or other input for the Newsletter are to be forwarded to the Secretary. There is no charge for advertisements; please allow a 3/8" margin on top and sides, and 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 a week or so before the deadline. All dues are to be forwarded to the Treasurer. (same address) Save yourself postage--inputs to Secretary and Treasurer can be put into the same envelope. Material for the Newsletter can be folded. Technical tips are to be sent to the Technical Coordinator--use winter Florida address. Amendments suggested to the Club By-Laws are to be sent to the President. Deadlines for Newsletter inputs are: February 15, May 15, August 1, and November 15.



Upcoming Rally.



Rally to the ROCKIES

U.D.M.M.C. National Rally Site

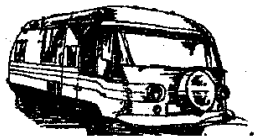
SEPTEMBER 15 - 22 1993

ULTRA VAN comfort in the Rocky Mountain National Park
(Located just 68 miles north of Denver)

Full Hook-ups (including 30 channels of cable TV) at the Park entrance (7,600 feet elevation) located on the Big Thompson river, for \$15.00 a day. Bring your sweaters. Trout fishing at the lake and free miniature golf in the RV park. Just over a foot bridge across the river are markets, restaurants, and liquor store. Free shuttle into Estes Park (1 mile) to more restaurants, shops, movie, golf and sightseeing.

- ⇒ The annual Longs Peak Scottish Highland Festival is held in Estes Park the week-end before the rally, September 9 - 12.
- ⇒ Fort Collins is a short distance away with Oktoberfest September 26th in the Old Town Square, tour of the Anheuser-Bush brewery, The Lincoln Center home of the Open Stage Theater Company, Swetsville Zoo (metal menagerie of real and mythical creatures.) The Balloon Festival September 20-25.
- ⇒ New gambling casinos in Central City, just 30 miles west of Denver.
- ⇒ Gathering before and after the rally at W. Christy Bardens place in Boulder, just 30 miles north of Denver, home of McGuckins' hardware store. General repairs can be made at his place.

Rain, snow or shine the dates and place are firm. If it snows, it will be a heavy wet snow and be gone in a day or so from the sun that follows.



National Rally Schedule - Ultra Week - September 15 - 22 1993 Estes Part, Colorado

The rally site is the Spruce Lake R/V Park, Mary's Lake Road off Route 36, Estes Park, Colorado 80517. (303) 586-2889. Owners are Ron and Char Robinson.

The week before the rally September 9th - 12th are the Highland Games (Scottish activities) held in Estes Park. This is a well attended affair by Colorado folk. You can stay at the Spruce Lake R/V Park for the same rally price of \$15.00 a night. There will also be a pre-get together before the rally at Christy Barden's, 5537 Pioneer Road, Boulder Colorado. 80301. (303) 530-1288.

September 15th - Wednesday

Registration: At the Hosts Ultra (Craigs). Pay the campgrounds fee at the camp office and get an assigned space. Great and visit with others.

September 16th - Thursday

9:00 - 10:00 Coffee and Snacks and visit.

10:00 - Noon Ladies crafts and Men's Technical sessions.

2:00 -3:00 Silent auction (Chance to sell your spare parts)

Evening: Ranger talk, Rocky Mountain National Park.

September 17th - Friday

9:00 - 10:00 Coffee and snacks and visit.

10:00 - Noon Ladies Crafts and Men's Technical sessions.

2:00 - 3:00 Board of Directors Meeting

4:30 - 6:00 Pot Luck Dinner.

Free Evening

September 18th - Saturday

9:00 - 10:00 - Coffee and Snacks and Visit.

10:00 - Noon Ladies Crafts and Men's technical sessions.

1:00 - 10:00 Tour of Fort Collins and Dinner Out in Ft. Collins.

(Fine Arts and Crafts Fair in Estes Park all day)

September 19th - Sunday

Morning Church

Noon - 5:00 Colorado Springs and Rocky Mountain Corvair Clubs will be visiting us. Free refreshments for all.

Free Evening

(Fine Arts and Crafts Fair in Estes Park all day)

September 20th - Monday

9:00 - 10:00 Coffee and Snacks and Visit.

11:00 - 1:00 General Meeting.

2:00 - 3:00 Financial Meeting.

4:00 - 6:00 Ultra Stew - All contribute.

Free Evening.

September 21st Tuesday

9:00 - 10:00 Coffee and Snacks and Visit.

10:30 - 6:00 Bus trip of the Rocky Mountain National Park.

7:00 10:00 Dinner Out in Estes Park and Officers Installation.

September 22 - Wednesday

Departure Day. All are invited to gather at Christy Bardens place in Boulder Colorado (30 Miles away).

Some of the most scenic walking trails will be at your back door.

Directions to the Spruce Lake R/V Park. From Denver come north on Interstate 25, from Cheyenne come south on interstate 25. Take exit number 243 and proceed west on Highway 66. At Lyons Highway 36 joins Highway 66. Stay on 36 to Mary's Lake Road (about 1 mile west of Estes Park) turn left and the R/V park is just across the river.

Directions to Christy Barden's in Boulder Colorado. From Denver proceed north on Highway 36 (Boulder Turnpike), south of Boulder exit on the Foothills Parkway and proceed north. The foothills Parkway empties onto the Diagonal Highway. The first stop light is Jay Road. Continue north east on the Diagonal Highway for one long block and the next right turn is 55th street. Turn right, go over the railroad tracks and the next street is Pioneer Road. Turn left and its the second house on the left. (You will see other Ultra Vans in the back yard). If you don't like the sounds of freight trains you might make arrangements to stay elsewhere. You can fill your water tank on arrival. There is only one dump station in Boulder, the Texico station on 28th street. Of course you can dump for free at the Spruce Lake R/V Park in Estes Park.



Summer Rally--to the mountains: Smoke Run, Pennsylvania July 11,17,1993

Our Host and Hostess - - Gordon and Ruth Harvey
Location - Our Hosts' homesite

Our summer Rally of 1993 started on Sunday morning, the 11th, with a short Church Service. Clyde Stanton brought us a devotional from "Our Daily Bread" devotional book, and a reading from the Bible-Proverbs 18:19-24. It was a very good message about friendship. Thank you, Clyde.

After the Service we all mostly just sat around and visited with one another, and watched for others to arrive. On mornings we had our usual coffee hour. Ruth had a special drawing: she gave prizes to those whose names were drawn and were present. The potluck on Monday night was delicious, with 28 attending. Of course, we had lots of food.

On Tuesday quite a few of our men went to Altoona to Jones' Surplus City, while the ladies stayed in camp and worked on their woven baskets. Wednesday the ladies all gathered up to Ruth's garage, and Ruth gave us a baking lesson on making some special cookies, which was a riot. Remember the old saying "Too many cooks spoil the stew"? You guessed it; we burnt some cookies.

Wednesday evening we all went out to supper; 31 total. Ruth & Gordon had arranged with a restaurant called "The Alley Popper" for us to have a buffet style dinner, with some of the Pennsylvania style foods, plus the regular standbys. Also, we had live dinner music provided by a young man who played a keyboard--all so very lovely. We came back filled to the brim.

Thursday morning found us all back up to the Harvey's basement for coffee. After the drawing the men had a tech session in and around Helmkey's motorhome, while the ladies did their craft in the basement. This time the ladies made a slap-on applique to wear on T-shirts or sweat-shirts.

Thursday afternoon we had ice cream (furnished by our hosts) and the cookies the ladies made the day before. After our refreshments we had our general meeting. The meeting was brought to order by National Vice President Norm Helmkey, and all went very smoothly. We got a lot of business taken care of in short order.

Quite a few of the people had to leave either after the business meeting or early Friday morning. Then we mostly did our own things and relaxed. There was another group that left Friday morning to go down to Surplus City. Some of the men went to a car museum and a tour of some of the beautiful Pennsylvania countryside.

Saturday morning found only a few of the Ultras still in camp. Ultras came early and late to the Rally, and left in the same manner. All in all, I do believe everyone had a good time.

We all thank Gordon and Ruth for going ahead with this Rally despite all the health problems (including surgery for Gordon), and other problems they had. Hope to see you all at Estes Park at the National Rally, if it is the Lord's will.

Submitted by Kaye Stanton

Smoke Run, Pennsylvania July 15, 1993 2:05 PM



Business meeting-Eastern Members of Ultra (EMU's)

Norm HelmKay, Vice President Ultra Van Motor Coach Club, presiding.

Minutes of previous meeting in Laurel, Florida approved as printed in the Newsletter.

Treasurer reported \$555.23 in EMU account.

Maybel Griggs (UVMCC Secretary) reported that President Tekaats had asked her to produce nominees for National offices. The following were presented: President, Gordon Harvey; Vice President, Jean McMasters; Secretary, Maybel Griggs; Treasurer, Louis Griggs; Eastern Director, (3 year term) Ruth Harvey; Eastern Director to replace Doug Taulbee-resigned (1 year to finish term), Jim Foust. There were no nominees from the floor.

The 1994 National Rally was discussed. This Rally is the East's responsibility. It was decided to hold the 1994 National Rally at Wilderness Point, Arkansas. A committee was appointed to make arrangements for this Rally-Louis Griggs, Jim Foust, Paul Rowland. The Rally dates are September 25-October 1, 1994.

The Florida Spring 1994 Rally was discussed. Time-last week of March. Committee-Jean McMasters, Dick Granger, Richard Badstibner. Details to be available at the National Rally.

Wagonmaster Clyde Stanton reported 16 Motorhomes; 14 of these were Ultras. 1 Louisiana, 6 Ohio, 1 Ontario, 3 Florida, 1 Maryland, 2 Pennsylvania, 1 New Jersey, 1 Michigan.

The Sheriff reported \$.75 in fines for not wearing badges.

The meeting adjourned at 3:00 PM.

Respectfully submitted, Louis Griggs



Agenda Item Number three:

Proposed Amendment to the By-Laws :

Article XVII Section 4 Change last sentence to read: Informal matter must have relevance to Ultra Vans or Tiara motorhomes.

Agenda Item Number four:

Proposed amendment to the By-Laws:

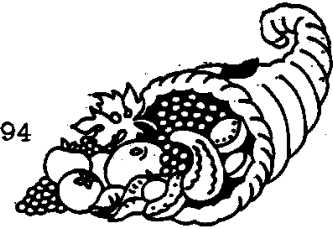
Article XVII Section 5 Delete second sentence.

Secretary hereby certifies that Agenda Items one thru four have been duly signed by at least five regular members, and approved by the President as directed by the By-Laws.

Ultra Van Motor Coach Club, Inc.

Treasurer's Report-Second Quarter, 1993:

Balance March 31, 1993		\$3841.94
Receipts: Dues	391.00	
Tech Tips Sold	72.00	
Benham Interest	12.01	
Al-Gar Dividend	18.66	
Total receipts:		493.67
Receipts plus balance:		4335.61
Expenses: Postage	208.79	
Print Newsletter	234.00	
Total expenses:	442.79	-442.79
Balance June 30, 1993:		\$3892.82



Respectfully Submitted, Louis C. Griggs, Treasurer



New Members: #350 Scott & Rhonda Pilkington
P. O. Box 97
Monteagle, TN 37356
Ph: 615-924-3475

#433 Lou & Pat Buffardi
400 Windward Passage
Slidell, LA 70458
Ph: 504-649-6502

#378 Ken & June MacKenzie
RR #1
Cedar Valley, Ontario L0G 1E0
Canada

Change of Address:

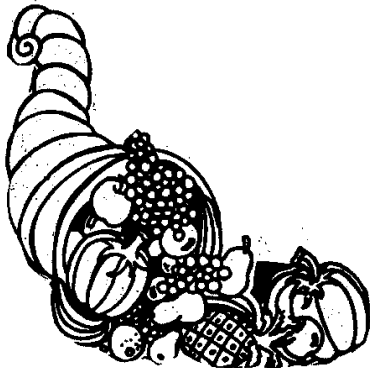
Bill & Jan Burleson
1700 Underhill Ave.
Roanoke, VA 24014



Comment Reply:

"Don't leave home without it"
White vinegar & Newspaper to wash windshield
Extra windshield wiper motor-(Pilot stole
mine one rainy trip.)
Cup-a-Soups (all left-overs go in the next
lunch-called "mustgoes". (when cleaning frig.
Dis must go-Dat must go)
Lipton Chicken soup mix (add grated carrot)
5 oz cans of Hormel chunk chicken & ham
(umy with grated vegies)
6 eggs, 2 potatoes, 2 onions
lemon
Extras: Tooth brush, toilet tissue, towel,
pillow cases, men's hankies (friends borrow)
My tablet, a book & a crossword puzzle.

Sent in by our dear friend Betsy Hull

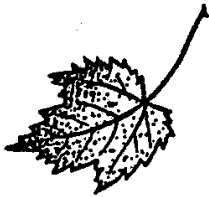




Our sympathy goes out to Rose Schuler, whose father passed away July 4.

Gordon Harvey continues to improve physically, after major surgery in Florida.

Please note: The 1993 Directory is now at the printers'. If we can keep #334 together, we will have everyone's Directory available at the NATIONAL RALLY. All updates are in the new Directory.



Coaches for sale:

#497 1969 Ultra Van. 140 HP Corvair engine. 1784 miles on rebuilt engine, 50 miles on rebuilt Powerglide. New windshield. Needs body work on left side and rear. No structural damage. \$4900. Donald T. Elliott, 32 Weiss Hill Road, Oroville, CA. No phone.

#T-2003 1969 Ultra Tiara. 454 Olds F. W. D. Dual A/C, 110 v generator. Well serviced-runs well-owned since 1978. Asking \$7500.00
David Browne 1000 Paul Street, Easton, Pa. 18042
Phone: 215-258-8978



ULTRA POSTSCRIPTS ★★★★★

"You can lead a horse to water, but you can not make him DRINK. You can send your son to College, but you can not make him THINK."

CALLS AND LETTERS: All your comments and suggestions for topics in Postscripts are appreciated. Please continue your fine feedback. Thanks.

COACH / CAR SAFETY: According to figures from the Insurance Crime Bureau, older vehicles are preferred by thieves. Among American built "wheels" 1986 up to 1989 models were most desired. For example: Those years of the Pontiac Firebird are stolen most often. Chevrolet Camaro is next with over 20 thefts per 1000. WHY would a thief steal an OLDER vehicle and not a brand new one? To avoid detection, they often DISMANTLE stolen vehicles and sell the parts. Brand new cars, trucks, coaches require few replacement parts. Also, an older rig is less likely to be protected by some anti-theft device. And, as vehicles age, some owners tend to value them less and exercise fewer precautions. That's a no, no. Per latest advice here is HOW to give an auto, truck, or motor home THIEF a hard time: (1) Park in well-lighted areas. (2) Put valuables out of sight. (3) Close all windows. Lock all doors. (4) Turn on any anti-theft devices you have, even if it is only a red-light on the dash. (5) If you park in a commercial lot, leave only your ignition key with the attendant. (6) Keep your License and Registration in your wallet (or in a secret hiding place in the vehicle). Otherwise, thieves can use such documents to sell your car or coach, or impersonate you if stopped by the police.

"Does a TREE, falling in a forest, make a NOISE when no one is there to hear it?"

INDIAN HUMORIST: "All I know is what I read in the Newspapers." WHO wrote that? Why, Will Rogers, of course. Whether a man is black or yellow, or brown or white, matters not. It's what's INSIDE that counts. Many members will remember Roger's columns in various daily Newspapers...until this great American Indian was killed when his plane crashed in Alaska. His barbs and his humor poured forth for many years throughout the nation. We looked forward to the "wise sayings" he concocted to help broaden-us or tickle our thinking. Will Rogers deserves our tribute, even now, long after his tragic death. Another potent line he wrote---"Invest in LAND...they aren't MAKING any more of it." His 10-word lines were fantastic.

"Money is LIKE an arm or a leg. Use it or Lose it!" -- Henry Ford

CLUB INSURANCE: We received notice from State Farm Casualty Company that the Club's coverage expires Sept. 18, 1993 at noon. The current Commercial Insurance Policy will not be renewed. All the years, since Ultra Club was founded in 1966, we have not had a single claim. The present policy carries \$1-million comprehensive and \$50-thousand property liability. State Farm no longer writes this type policy. The Club's decision is where to go for the coverage desired?--or to not carry that much insurance? In the Los Angeles area, upon checking around, a policy similar to what we've had will cost near \$1,500 per year. If any member can locate a reliable company that will write good liability insurance at a more reasonable cost, please let us know at once. Thank you.



"How GREAT it is to be standing on the edge of TOMORROW."- an optimist's cry.

APPRECIATION: The Club owes a big "thank you" to those who work the hardest getting out these big Newsletter Mailings---the last issue had 36-pages. Each Rally Report, Flyer, Tech-tip, and so on is appreciated! But, it seems our SECRETARY really does a bulk of the actual labor. Maybel Griggs (in Cumberland, Maryland) has the responsibility to co-ordinate and compile and formulate the publishing of the Newsletter (a challenging job--we know from having done it). And now she and Lou are compiling a great new DIRECTORY of all the members nationally. When you have a Club our size, it is no small job. Maybel and Lou also produce the LABELS for mailing the Newsletter (with the help of their Computer). The point is, do we appreciate ENOUGH what some members do for the organization? We need to thank ALL the Club WORKERS.

"A "Money Manager" is someone who often manages YOUR money until it's all gone." Better advice is do it yourself and DIVERSIFY widely.

LOSING POUNDS: People talk about dieting to promote better health. There is a way to eat all you want and still shed many pounds. The answer--you guessed it--is go to Great Britain, where pounds are money. Many Club members have visited London, Shakespeare country, and so on...maybe, even Ireland to kiss the Blarney Stone. That act is sure to give anyone the gift of gab. Regardless, one can lose many pounds in England where inflation is quite high. Mexico devalued its currency by 1,000% earlier this year. Now we learn that Russia has declared all of its currency issued before 1993 as worthless. People had only 2 or 3 days to use it. But most merchants refused to accept the old and Banks closed-up so as not to be stuck with it. Government devaluations occur with little or no notice. Many US Newspapers failed to carry this event. Millions of Russians lost all their savings.

"My people PERISH for lack of vital knowledge." -- Hosea

THE CLUB CHARTER: When the organization began and over many succeeding years emphasis was mostly on fellowship and travel to new and exciting places in our Ultra motorhomes. Some may wish to change the Club's efforts more in the direction of improving and/or maintaining the rare Ultra vehicle. That decision is, of course, up to the members. Our blessing goes along with whatever the majority may decide. Our attorney's opinion (after studying the Articles of Incorporation) regarding restricting the Newsletter to just Ultra connected matters, was based on these facts: Since the ARTICLES do specifically list the Corporate requirements, they would need be revised prior to voting such a major restriction. One thing is sure---we must not lose our Corporation-status by violating any of the recorded constitutional requirements. But they, too, can be changed.

The following is addressed to "U": (1) We cannot spell LTRA without U. (2) We cannot spell CL_B without U. (3) We cannot spell NIION without U. (4) We cannot spell S_CCESS without U. We need "U" to keep your Ultra Club organization alive and strong.

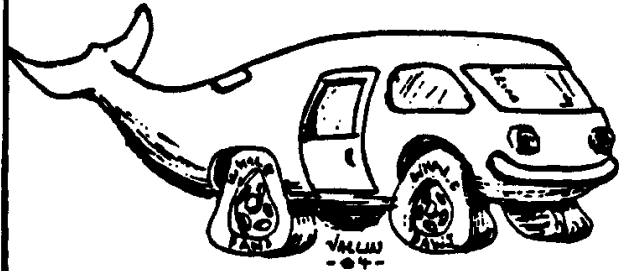
THE NATIONAL CONVENTION: Everyone who is able should attend the great BIG National Rally in Colorado this Fall. Hope to see all of our friends there. Every member must not forget to VOTE -- might be a good idea to MAIL your Ballot even though you plan to be at the National. Mail your VOTE decisions TODAY.....before other activities interfere. The Club needs your VOTE.

"The MIND once expanded to the dimentions of a LARGER IDEAL, never returns to its original size." -- Oliver Wendell Holmes

This POSTSCRIPTS is being faxed to Maybel Griggs July 29, 1993

Have a happy Summer, *E. Smith*

TECHNICAL WHALE TALES



"Technical Whale Tales are a collection of technical tips submitted by Ultra Van Motor Coach Club members. While these tips have been reviewed for content and are believed to be both acceptable and workable, there is no guarantee implied that they will work correctly, nor is any liability assumed by the Ultra Van Motor Coach Club, the Technical Chairman or the author for any problems that result from the use of these tips." Forward all Technical Tips to: Norm Helmkey, 73 Sargent St., Haines City, FL 33844

It seems like this newsletter is a "brakes" issue and rightly so. I am very concerned to report, that over the last year, I have seen a number of coaches on the road with brake problems. Since we are heading for the mountains in Colorado in September, everyone should make sure their brakes and steering are in tip-top shape before departing.

* - * - * - * - * - * - * - * - * - * - * - * - *

RV clubs and vendors sponsor vehicle recovery services which are fairly low cost insurance for getting a stranded vehicle to a repair station. Camping World, Good Sam, FMCA and others offer packages that will pick-up a disabled vehicle and move it to a designated repair center for an annual fee of under \$100. The particular service I have is "RV Assist" from California. They charge \$69 which includes one extra vehicle. Auto club packages often exclude RVs and most will only recover a vehicle from a public road. Some plans will only take you to the nearest garage. Read the fine print in the advertising before you sign on the dotted line. More detail on this at the National in Colorado.

As a club, we need a published list of designated repair centers much like those on the back of the Corsa Communique magazine every other month. As most of our coaches are Corvair powered, the Corsa list may be a good place to start. This will also be a point of discussion in a tech-session at the National in Colorado. Piggy-backed on the discussion above should be a published list of those we consider Ultra Specialists. This year many coaches have change hands and the new owners would like as a minimum, phone help for their early "get-acquainted" problems.

* - * - * - * - * - * - * - * - * - * - * - * - *

The Ultra Issue of the CORSA Communique last February has a few errors in it and since the CORSA magazine may become a future judging and historic reference, we need a session at the National on what is correct. Please come prepared with your data. For your interest, I have reviewed all the data I could find, including an 11 page 1970 Ultra Corp owners mailing list ending at #554. I see the record of coaches built as follows:

| | | | | |
|-------------------|-----|--------------|-----|-----|
| Peterson | 17 | Ultra Coach | 600 | 5 |
| Prescolite | 7 | Ultra Coach | 700 | 1 |
| Ultra Corvair | 305 | Total Ultras | | 384 |
| Ultra Corvette | 47 | Ultra Tiara | | 14 |
| Ultra Rover Ford | 1 | Belco Tiara | | 28 |
| Ultra Rover Dodge | 1 | Grand Total | | 426 |

If you have any further data on these numbers, please let me know.

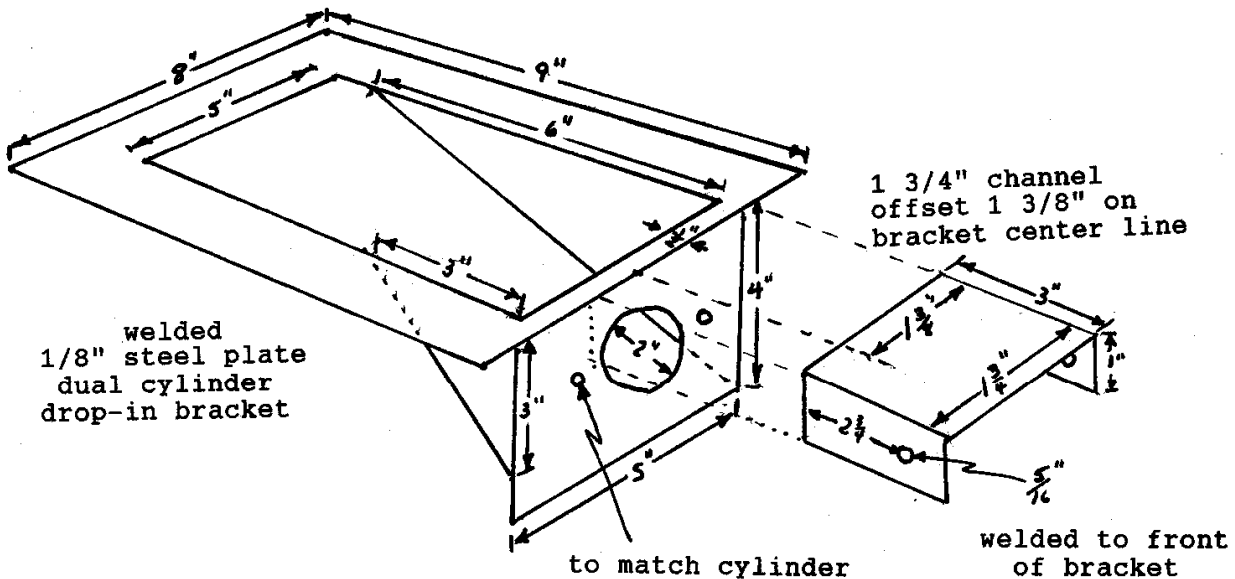
*** Safety Disclaimer ***

Brakes are perhaps the most important system in our coaches and any work done on the brakes should be performed by a competent person who understands the braking system. The Ultra Van Club and authors of this Tech-Tip assume no liability for any problems which result in the use of this tip.

1993 Editor Note - This tip outlines the way Dick Granger mounted his dual master cylinder and in my opinion is the easiest and best way to do the job. However, it requires the steel drop-in mount shown below. Because coach owners seem to have such an aversion to welding, Jean McMasters has made an arrangement with a local welding shop to make-up the bracket shown below. Contact Jean for price. Norm Helmkey

The major advantage of the drop-in dual master cylinder bracket is the whole unit can be set-up on the bench before it is bolted-in between the ribs. As shown, the dual master cylinder will rest at the 18° angle of the the two ribs where the old cylinder was mounted. An improvement can be made if the drop-in bracket made of 1/8" steel plate was mounted more horizontally. This would make bleeding the system in the future easier and let the master cylinder hold more fluid as shown on page 11-23 of the Ryerson Ultra Manual.

When setting-up the brake pedal arm and bleeding the master cylinder on the bench, be sure primary piston comes all the way back, to insure the compensating ports "A" and "B" are open as shown in drawing 11-AK on page 11-26 of the Ryerson Ultra Manual.



*** Safety Disclaimer ***

Brakes are perhaps the most important system in our coaches and any work done on the brakes should be performed by a competent person who understands the braking system. The Ultra Van Club and author of this Tech-Tip assume no liability for any problems which result in the use of this tip.

To quote from the Ultra Van Manual Page 11-22, "Replacing the original single master cylinder with a dual unit could be one of the most vital SAFETY improvements possible in the Ultra Van."

In 1978, Art Merrifield engineered a way (Tip 78-06), which is in the Ultra Manual (pages 11-22 to 11-28). Art's instructions are complete and should have been widely used. However, this past year, I looked through many Ultras and it's a shame how few Corvair powered Ultras have the dual system installed.

Everyone thinks the dual system is desirable, but it seems the average do-it-yourself owner will not try to do it, if welding is needed. I recently converted #486 without welding, bending or machining and only regular shop tools are needed. 1967-69 Corvair dual master cylinders are still available from regular auto parts stores and will always be stocked by restoration suppliers.

Because of wear, the brake pedal arm pivot bolt hole was enlarged to 5/16". This installation allows the master cylinder to be nearly level so bleeding is easier, and the reservoirs hold more fluid than the old master cylinder that was angled at down at 18 degrees.

PRE-PLANNING is essential to get the coach back on the road quickly. Study the details and do lots of checking to be sure things will fit. Get all the hardware and parts ahead of time. The triangular aluminum plate can come off without disturbing the existing brake lines, while the fitting is done. Squirt penetrating oil on the pipe fittings to make it easy to undo the existing brake lines, but don't loosen them yet.

One of the most important things is to measure exactly where the brake pedal is in relation to the steering column. Cut cardboard templates to capture the exact relationship for fitting later. If the master cylinder is mounted more horizontally, the brake arm will travel a bit less. If this is a problem for you, change the base plate angle to keep the travel the same. You may give up a little fluid capacity in the master cylinder and it is harder to bleed, but bench bleeding reduces this problem to almost nil.

Your brake pedal arm can be used for fitting the new assembly. As long as the hydraulic lines are not touched, everything including the pedal arm can be put back together in just a few minutes by re-installing the brake arm and triangular top plate. When the first hydraulic line is loosened, your committed, from there it's full steam ahead.

Remove the left front panel and floor boards, etc as described in Ultra Manual Section 11, Page 11-25. Determine how wide the ribs are apart (Ultra Manual Page 11-24). These dimensions are for the wider ribs (to do a narrow rib coach, the base plate is narrowed by 3/4 inch).

The heart of the "no-weld" system is a "U" shaped trailer spring hanger, available at most boat trailer supply shops for about \$2.50. It is 2.5" wide, 3" long and 4" deep with a spring shackle bolt hole. See Fig 1.

Measure down 1 1/2 inches on both sides of the "U" hanger and cut off the surplus with an ordinary hacksaw. As shown in Fig 2, cut a 1" x 3/8" slot, along the inside edge to clear the pedal arm. With measurements from Fig 2, drill four 1/4" holes. These will be enlarged later.

Where holes are to be drilled, use a center punch and always drill small pilot hole first. Use only Grade 5 fasteners for assembly.

Cut a piece of 1 1/4 x 1 1/4 angle iron 1 1/2" long. File rough edges.

Clamp the angle iron inside the "U" hanger at the end away from the slot. Drill through both the spring hanger and angle below with a 5/16" bit. Enlarge the holes in the spring hanger to 3/8". Tap the holes in the small angle iron for a 3/8-24 fine thread.

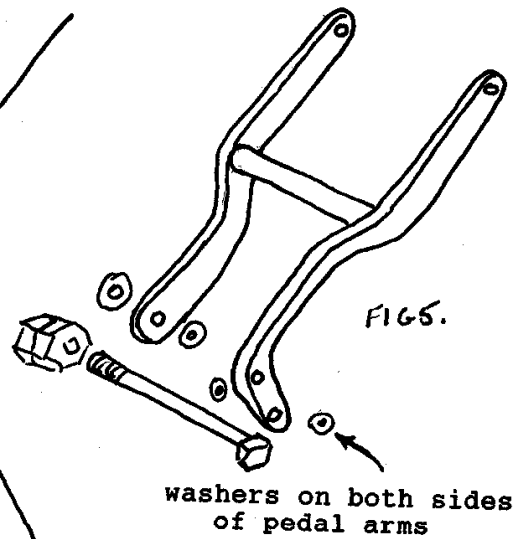
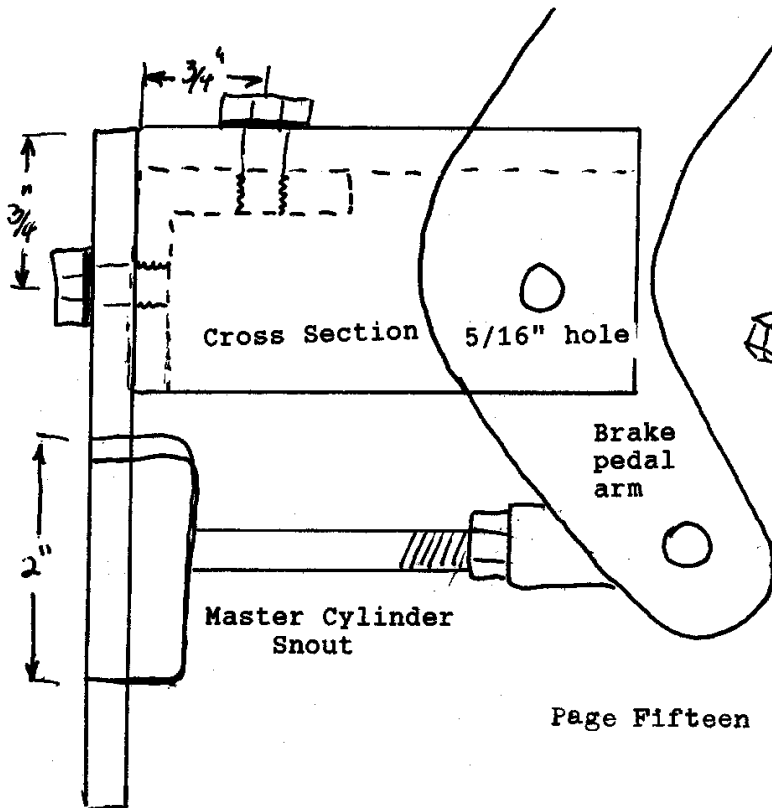
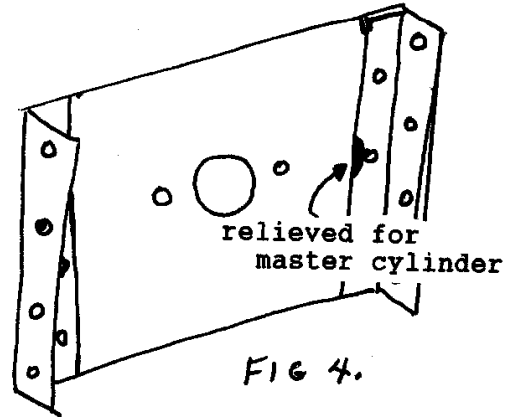
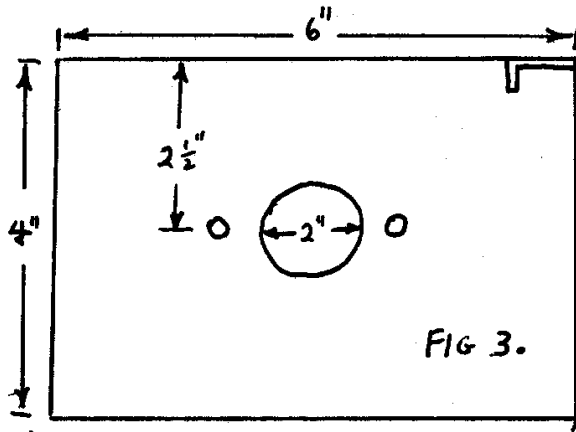
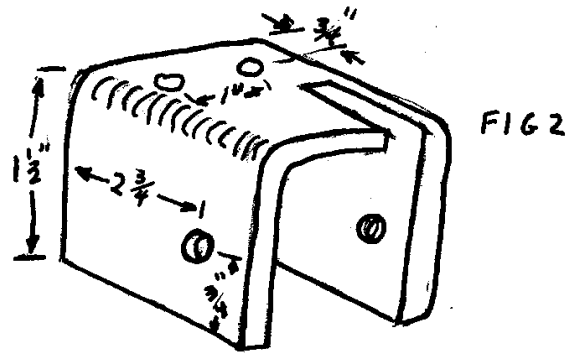
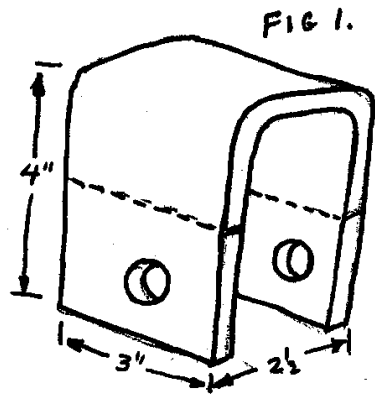
The base plate is 1/4" steel plate, 4" x 6" for wide ribs coaches (4 x 5 1/4" for the narrow ribs). Draw a vertical line down the center and horizontal line 2.5" down from the top. The mounting bolt holes for my new master cylinder were 3 7/16" apart, so I split this (1 23/32") on either side of the center line and made two marks on the horizontal line. Center punch the marks. In the upper right corner, make a slot for the rib flange and cut a bit off the top. See Fig 3.

The snout diameter of my master cylinder is 1 1/2". A 2" hole allows room to put the rubber dust boot on over the end of the cylinder. Drill a 5/16" hole on either side to match the master cylinder bolt pattern and tap for 3/8-24 fine thread. Mark and cut the 2" hole in the base plate with a hole saw, or by drilling small holes around the circle, knock out the center, then file the hole smooth. Test fit the base plate into the space between the ribs.

Cut two pieces of 1 x 1 angle iron 4 inches long. Drill three equally spaced 1/4" holes on one leg. Make a template from a piece of 1 x 4 flat steel for drilling four equally spaced 1/4" holes on the other leg of each of the two pieces. Using the template make a second 1 x 4 piece. The template and duplicate are used as backup plates on the outside of the ribs. The angle iron on the left side of the base plate may have to be relieved slightly to allow clearance for the master cylinder mounting bolt. See Fig 4. Attach the angles irons to the base plate with 1/4" bolts, washers and nuts on the front side of the plate. Just snug the nuts hand tight, they are tightened later in final assembly.

To attach the "U" hanger to the base plate, clamp it tight against the edge of the left angle iron flush with the top of the base plate. Drill two 5/16" holes an inch apart, through both the base plate and the 1 1/4" angle iron inside the "U" hanger. Tap the two holes in the angle iron with the 3/8-24 tap. Drill out the two base plate holes to 3/8".

Attach the "U" hanger to the base plate with 3/8-24 x 3/4 bolts, nuts and lock washers. Install the brake arm temporarily with the original 3 1/2 x 1/4 pivot bolt. Screw 3/8-24 x 1 1/4 bolts through the base plate so they project out on the back side like studs. Slide the master cylinder over the bolts and secure with lock washers and nuts. Slip the dust boot on the master cylinder snout. Insert the push rod thru the boot and attach to the brake pedal arm.



Enlarge the 1/4" pivot holes in the "U" hanger and brake arm to 5/16". (For a snug "no-slop" arm, drill the hole 19/64 and ream to 5/16"). Install the arm with the 3 1/2" 5/16" bolt and put washers between the pieces as shown in Fig 5. Double nut the bolt with a lockwasher between the nuts so it is snug but does not bind the brake arm.

With the brake arm temporarily in place and the push rod attached to the bottom hole of the brake arm, moved the arm back and forth to make sure there are no binds, especially in the slot cut into the spring hanger. The basic assembly is complete and is ready to install between the ribs.

Remove the old master cylinder by loosening the two pipes at the rear of the cylinder. These have to be rerouted as the pipes come into the new master cylinder on the right. The brake lines are 3/16" pipe size. The new master cylinder has 5/16" inverted flare ports, but the front port has a larger threaded hole than the rear port. I couldn't find a single fitting to go from 3/16 to 5/16, so went from 3/16 to 1/4, then 1/4 to 5/16. Adapter part numbers used are listed later. The pipe from the rear wheels must be extended to reach the rear port of the new cylinder. Use a 3/16" tube size inverted flare union to join the old and new pipes.

Holes must be cut into the ribs to allow the pipes to pass through, but wait until the new cylinder is in to mark the exact place.

FINAL ASSEMBLY

The brake arm and new master cylinder that were temporarily installed have to be taken off to get the base plate in between the ribs. Once the plate is in place, reinstall the master cylinder and brake arm so the base plate can be located and holes drilled in the ribs. Also, the cylinder has to come out once more to be bench bled.

Three things must be satisfied before drilling holes in the side ribs.

1. Brake arm is in right position relative to the steering column
2. Cylinder mount plate is as verticle as possible
3. Cylinder is as level as possible

Move the base plate around until the master cylinder is as high as it can go at the rear yet have the brake pedal properly located at the steering column. If necessary, to get the correct pedal height and arm travel, raise the front of the master cylinder slightly, keeping it as level as possible. Use a "C" clamp to hold the assembly in place. When located, remove the master cylinder, then drill the top 1/4" holes on each side through the 1" angles. Hold the angles and templates in place with a 1/4" bolt at the top on each side. The backup plates will be on the outside of the ribs to locate where to drill the other holes. Drill one hole at a time, checking that each bolt aligns correctly. When all of the rib holes have been drilled, the fourteen 1/4" bolts, flat washers, lock washers and nuts in the base plate and angles are tightened.

Before installing the master cylinder, make sure you bench bleed it. Most new cylinders will come with a couple of little plastic pipes and adapters with instructions for pre-bleeding.

Drop the rear of the master cylinder between the ribs and slide forward onto the bolts, snug nuts hand tight to keep it in place. Mark the side ribs for the outlet port pipes holes. Remove the master cylinder to cut the holes. A 3/4 hole punch is best, but drilling around a circle and filing the hole smooth is another way.

Use a ready-made 12" long 3/16" brake pipe and 3/16" inverted flare union fitting to extend the rear brake pipe. Bring it through the existing hole at the bottom of the rib where the front wheel brake pipe originally came through. Be careful not to kink the pipe as it bends around the Pittman arm link into the rear of the master cylinder. Don't attach it yet. Next bring the front wheel cylinder pipe from the distribution block with the stop light switch up to the front master cylinder port. Install port adapters and join the pipes to their appropriate ports.

Re-install the brake arm and spring hanger assembly with the two top bolts and lockwashers. It takes some magic to get the push rod, washer and return spring engaged but it is possible with needle nose pliers and/or a skinny hand.

Bleed the brakes and make sure there are no leaks at the union and outlet ports. If you don't have a mechanical stoplight switch, now is a good time to do the wiring before the floor boards are put back. See Tip 93-30 for details of the switch installation.

Make a paper template from the triangular piece of aluminum taken off at the beginning. Cut a pattern to fit around the top of the new master cylinder which extends a bit above the floor. When the pattern fits OK, transfer the shape to the triangular piece of aluminum and cut it to fit. Bolt this piece back in. Replace the floor boards, etc.

MATERIAL LIST all bolts and nuts are Grade 5

- 1 trailer spring hanger 2 1/2 x 3 x 4 ("U" hanger)
- 1 piece 1 1/4 x 1 1/4 angle iron 1 1/4" long
- 4 3/8-24 x 3/4 bolts SAE fine thread
- 6 3/8 lock washers
- 1 5/16-24 x 3 1/2" bolt SAE fine thread
- 2 5/16-24 SAE fine nuts
- 1 5/16" lock washer
- 4 5/16" flat washers
- 1 piece 4 x 6" (or 4 x 5 1/4") steel plate
- 2 3/8-24 x 1 1/2" SAE fine cap screws (threaded down to the head)
- 2 3/8-24 SAE fine nuts
- 2 pieces 1 x 1" angle iron, 4 inches long
- 14 1/4-28 x 1" bolts fine thread
- 14 1/4-28 nuts
- 28 1/4" flat washers
- 14 1/4" lock washers
- 1 12" 3/16" Bundy Brake Line with fittings installed
- 1 3/16" Inverted Flare (IF) Union (Motormite #43375 or equiv)
- 2 3/16 to 1/4 IF adapters (AS Products Service Supply #27818 or equiv)
- 1 1/4 to 5/16 IF rear port adapter (Motormite #43302 or equiv)
- 1 1/4 to 5/16 IF front port adapter (AS Products Supply #27908 or equiv)
- 2 1" x 4" 1/8" thick steel backup strips (template and duplicate)

| TOOL LIST | Vice Grips |
|-----------------------|--|
| Hacksaw | 3/8" combination open end box end wrench |
| drill motor | 7/16" " " " " " " |
| 5/16" twist drill | 1/2" " " " " " " |
| 3/8" twist drill | 9/16" " " " " " " |
| 1/4" twist drill | socket set |
| several 4" "C" clamps | 2" hole saw (optional) |
| tap handle | half round file |
| 3/8"-24 tap | center punch |
| hammer | 3/4" hole punch (optional) |

The old hydraulic stoplight switch under the floor has two major faults. First, it does not work until there is pressure in the line. This means your foot was on the brake for a few microseconds before the stoplight comes on to warn the driver behind that you are braking. Second, the hydraulic switch is a source of fluid leaks at the seal between the metal switch body and the switch insulator.

By changing to a mechanical switch just above the foot pedal, the brake lights will come on the instant your foot touches the pedal, giving the driver behind a tiny bit of extra time to react that he would not have had with the old hydraulic switch.

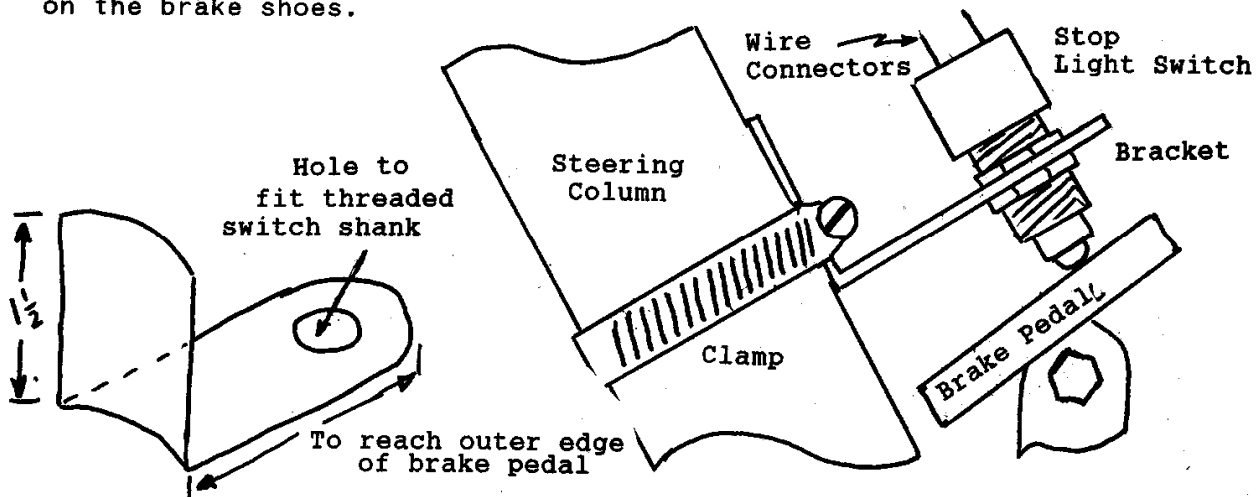
The wiring is easy, just run two parallel wires from the existing switch under the floor up to the steering column above the brake pedal.

I left the original switch under the floor connected so both stoplight switches are in parallel. In the event either switch failed the other would do the job. When the hydraulic switch fails, I'll just plug the hole with an 1/8th inch pipe plug.

Mechanical switches are available at all auto parts stores for just a few dollars. Since before 1980, all the new cars have had them, so a junk yard is also a cheap source.

Make a small bracket as shown below and use a spiral hose clamp to attach it to the steering column just over the brake pedal. You should cut a bit of rubber off the pedal pad to expose enough metal to let the switch head will slide easily when it makes contact with the top of the pedal. Install the switch and adjust it up or down with the two nuts on the threaded shank of the switch. Most switches have spade type electrical connectors so the two wires coming up from the original stoplight switch are just plugged onto the new switch.

The final adjustment is made so the stoplights are off at the top of the travel of the brake pedal. Make extra sure the brake pedal is pulled all the way back by the return spring and the switch applies no pressure to the pedal. If wrongly adjusted, the switch can hold the pedal with the brakes slightly on, which would put extra wear and drag on the brake shoes.



If you are not aware, most of the stopping power on your coach comes from the front brakes, even though there is more weight on the back.

If you doubt this idea, which brake shoes wear-out first on your rig?

Over the last year, several Ultra Vanners have complained they had trouble stopping and were ready to do a complete brake job when the only problem they had was badly adjusted front brake shoes.

The automatic brake adjusters don't always work as advertised and many non-technical drivers don't even know the brakes are supposed to adjust when the brakes are applied while backing-up.

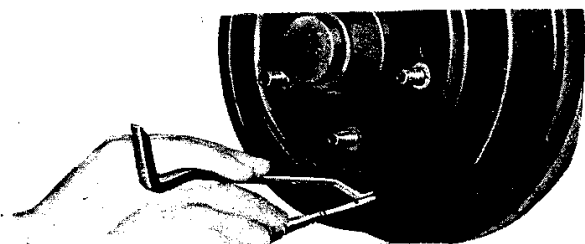
You should measure the height of the brake pedal in the applied position, just after you have had all the brake shoes adjusted. Put the measurement on a sticker in front of the steering column. This will give you a relative check to determine when the brakes need adjusting again. If the pedal goes down more than 2 inches from that initial measurement, its time to adjust the shoes again. If the pedal goes down that far, its a safe bet the automatic adjusters are not working.

I suggest the next time you do a brake job, leave automatic adjusters off. It makes it less complicated to do a brake job and easier the flip the adjusting star wheel up or down while doing the actual brake shoe adjustment. Also, if the drum is worn, it is easier to get the drum off by backing off the adjuster star wheel.

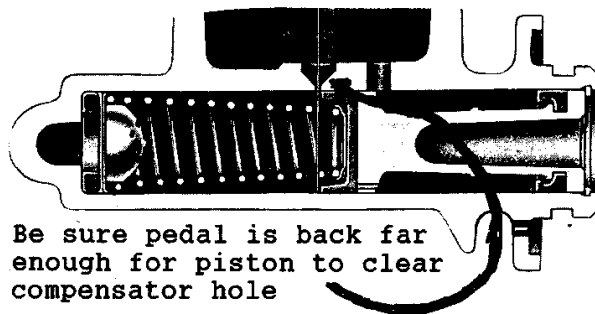
With the automatic adjusters in place, backing off the star wheel is a bit tricky for the inexperienced, as it requires holding the adjusting lever out from the star wheel with one hand while the star wheel is backed-off with the other. This must all be done through the little knock-out hole in the brake drum using two tools.

The brake drums have little knock-outs which can be seen when the wheel is off. If these knock-outs are punched out the shoes can be adjusted without removing the drum. Any time a wheel is off, the adjustment can be easily done through the knock-out hole with just a screwdriver..

Finally, when adjusting brake pedal height, make sure the pedal comes back far enough to uncover the fluid compensating ports in the master cylinder. Failure to do this can leave the brakes on a bit.



using two hands to adjust star wheel thru knock-out

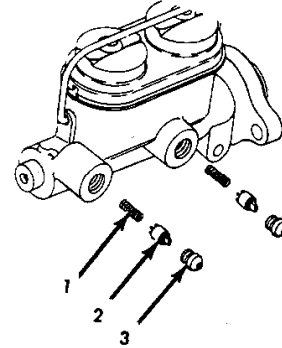


Be sure pedal is back far enough for piston to clear compensator hole

When you read this, it may seem like I've encountered almost every problem one might have with a hydraulic brake system and it might not be too far from the truth. While part of this did not happen on an Ultra Van, the same problem can occur if you are replacing a master cylinder and are not aware of little things called residual check valves.

In 1987, as one of my first retirement projects, I completely overhauled the brake system on my 1967 Chev pickup truck with new brake lines, drums, master and wheel cylinders.

The next spring, when bringing the truck out of winter storage, I noticed the brake pedal was a bit spongy. Bleeding the system cleared it up, but within a month the air was back. I thought installing another new master cylinder was the quickest way to solve the problem. The next spring air was in the system and in a few weeks on the road, air was back in the system again.



1. Spring
2. Check-Valve
3. Brass Seat

Reflecting on what I had done to that point, I thought, maybe the wheel cylinders were old stock when I bought them and perhaps the rubber cups were deteriorated (even though they had run under 5,000 miles). I got new wheel cylinder kits and was surprised the kits came with cup expanders which were not in the cylinders on the truck. Why were they there? Manufacturers don't often throw in extras for nothing.

By chance, about the same time I found an early '80s Bendix Brake Service Manual. From the manual, I learned that around 1970, car makers stopped putting residual check-valves in the master cylinders, as they phased in disc brakes. Discs don't need the residual check-valves.

The residual check-valve keeps 4 to 5 pounds of residual pressure in the line and expand the edges of the wheel cylinder cups so they don't leak or suck air. Brake shoe return springs are strong enough to pull the shoes back. Manufacturers added cup expanders to the rear wheel cylinders of cars with rear drum brakes, to fix the problem of sucking air caused when the rear master cylinder residual check-valve was dropped.

I still had both re-built master cylinders, (one on the truck and one under the workbench), on checking, neither had residual check-valves.

With the cup expanders installed in the wheel cylinders, there has been no air in the brake system since.

Fred Puhn's Brake Handbook and the Bendix Brake System Service Manual, both make a point of emphasizing the importance of residual-pressure check valves in the master cylinders of drum brake systems.

I raise this point because very few (if any) master cylinder rebuilders install these check-valves, believing they are not required. Also, most of the wheel cylinders sold for pre-1970 vehicles don't have cup expanders. This combination can result in the very problem I had experienced.

The residual check valves (if there), are hidden behind little brass valve seats in the master cylinder outlet ports. See No. 2 in diagram.

By probing lightly with a piece of wire, you can find out if your master cylinder has a little rubber check valve. Be careful not to poke too hard as the valve is easily damaged. Perhaps rebuilders and suppliers can come up with master cylinders with check-valves for those of us who are into pre-70 old cars and motorhomes.

The next brake problem began when Ultra Van engineers modified the lightweight Corvaire powered motorhome, by installing a V-8. The new combination added over 1,500 pounds and the designers (I use the term very loosely) did not understand the stresses that would be put on a hybrid brake system, when they cobbled together Chevy II drum brakes on the front and Corvette disc brakes on the rear. An unlikely combination in any motor vehicle. Can you think of any other like it?

As on the truck, the whole brake system was overhauled with new brake lines, drums, stainless steel sleeved rear calipers, master and wheel cylinders. In addition, much to my later sorrow, the Corvette rear disc rotor surfaces were turned down.

Every few hundred miles, even with little use of the brake, I noticed the brake pedal was spongy and it took only a few rapid stops to induce brake fade on the front drum brakes. They were now doing all the braking, as the rear discs had given up altogether. Bleeding the rear calipers always fixed the problem for a few hundred more miles. Over the summer air kept coming back in the system, but strangely, only in the rear. Since everything at the back was new, I assumed the problem was in the rear calipers. They had a lifetime warranty, so I visited the caliper rebuilder in upstate New York, a pioneer in stainless sleeved units.

In discussing the problem, it came out the rivets holding the rotor to the hub had been drilled out, just as described in the Ultra Van service manual. This was not a good idea since GM had ground the rotor true with the hub attached as a unit. When separated to have them resurfaced, there was no way they could be remated after grinding and still run true.

Running true is vital for fixed caliper disc brakes, as they don't use residual pressure to hold the caliper seals tight. On the Corvette four piston caliper, light springs behind the pistons actually hold the brake pads lightly against the rotor, even when there is no hydraulic pressure. If the rotor wobbles, even a couple of thousandths, the caliper piston becomes an efficient pump, forcing air into the brake system (a problem quite common on '63 to '82 Corvettes).

I tried tapered shims to true the wobbling rotors, but they didn't work too well. A solution was to have the rotors reground right on the hub.

The front brake fade was much tougher to figure out. After a lot of head scratching and many sleepless nights, I remembered, the fade was always worst the first week after leaving home, just after the system had been flushed and new fluid was put in. After bleeding the brakes a couple of times in shopping center parking lots, with new brake fluid bought along the way, the fade disappeared. This happened two years in a row.

In a tech session, someone asked how often the brake fluid should be changed because of the water that is absorbed by the glycol-based brake fluid, especially if the motorhome stands unused for long periods. Like Fords "Better Idea" light bulb, it occurred to me I had been using brake fluid from a big gallon can, now more than 5 years old.

Each fall when we headed south, I had flushed the brake system with "new" brake fluid from the gallon can which now likely had enough water content to cause the fade problem when the brakes got really hot. This got me into the books and consultation with my son, a chemist in the automotive industry, to learn a bit about the chemistry of brake fluid.

The Society of Automotive Engineers (SAE) set brake fluid standards which have changed greatly over the years. The original was 70R1, a low boiling point fluid only good for drum type brakes. Government standards began with DOT 2 or SAE 70R3 requiring brake fluids to meet a minimum boiling point of 300 F. When disc brakes became popular, the SAE found DOT 2 was not good enough and the new standard became SAE J1703B or DOT 3.

As discs became more widely used, a better fluid was needed to cope with higher temperatures. DOT 4 became the new standard. Today, DOT 3 and 4 are widely sold for use in regular motor vehicles. These fluids are glycol-based and therefore are hygroscopic or water absorbant. Since DOT 3 and DOT 4 have different characteristics they should not be mixed.

Hygroscopic fluids absorb water in either the liquid or gaseous state. The boiling point of the brake fluid goes down dramatically as it picks up moisture. As little as three percent moisture cuts the boiling point significantly and under very severe conditions like holding back a motorhome on a mountain, the fluid boils which vapor locks the system and results in brake fade. Another problem associated with hygroscopic fluids is once absorbed, the water is now inside the brake system where it can rust and corrode the master and wheel cylinders or calipers, especially those where the vehicle is unused for long periods.

Where does the water come from? In the beginning, when the fluid is poured into the master cylinder it is exposed to the air. Each time the brakes are applied, air is vented in and out the top of the master cylinder. In the early 70's master cylinders began to appear with flexible rubber diaphragms under the top cover which suck down into the master cylinder as the fluid level drops. These diaphragms are designed to reduce the air space over the fluid.

Another major cause of moisture in brake fluid is an open container. Also, even though the top is on tight, there is an air space containing moisture. Every time the can is opened, more moisture laden air goes in. Brake fluid can absorb as much as 25 percent water in a year. The fluid boiling point can drop from 450°F to under 300°F in less than a year of service. This is a good reason to change the fluid every year and also a reason to only buy brake fluid in small 12 ounce plastic bottles.

Silicone based DOT 5 brake fluid has a much higher temperature rating, and does not absorb water, but it is much more expensive than glycol-based types. Ideal for antique vehicles stored for long periods.

However, silicone based fluid has one very negative characteristic which prevents it from being sanctioned by any racing association and as far as I'm concerned in any application where high brake heat is possible, like motorhomes, trailer towing, mountain driving etc.

Every time silicone brake fluid is poured, air bubbles dissolve into the fluid. This dissolved air makes the fluid slightly compressible giving a slightly spongy brake pedal and under high heat conditions will liberate the captured air and may vapor lock the brake system. You can learn to live with it, especially with power brakes, but if you are from the old school and expect a rock-hard pedal, it's a bit unnerving.

The government standard for the brake fluid must be shown on the side of every container. The temperature listed is called the "Dry Boiling Point." This is the boiling point temperature rating for fresh fluid which has not yet absorbed any water. A more important number which hardly every appears on the container is the Equilibrium Reflux Boiling Point (ERBP) or Wet Boiling Point. This is the temperature at which the fluid will boil point after exposure to moisture. Notice, even the boiling point of DOT 5 (silicone fluid) drops even though it is not supposed to absorb water. All those little air bubbles carry moisture. One interesting factor is even the Wet Boiling Point of DOT 5, is nearly as good as the DOT 3 Dry Boiling Point.

| | Government Standard | DOT 3 | | DOT 4 | | DOT 5 | |
|-----------------------------|---------------------|-------|------|-------|------|-------|------|
| | | F | C | F | C | F | C |
| Dry Boiling Point | Degrees | 400° | 205° | 450° | 230° | 500° | 260° |
| Wet Boiling Point
(ERBP) | Degrees | 285° | 140° | 310° | 140° | 360° | 180° |

The point is, throw out any fluid left in an open container and buy just the small plastic bottles of fluid. You don't waste much when you throw whats left away. To compare, a gallon container at Sam's Wholesale is about \$6. A 12 bottle case of 12 ounce plastic bottles is just \$7.

TECH TIP NO. 93-33 SUBJECT Battery Sense
 UV MANUAL SECTION 15 PAGE 15-15 AUTHOR Norm Helmkey #486

Many of us run with two batteries and conveniently there are two switches at the rear allowing selection of whichever battery we want to use. Some turn on both switches to charge the batteries when running.

The problem is this set-up can DESTROY batteries.

Why so, you say? Think about the batteries as two water tanks one full of water and one nearly empty. If you ran a pipe from the bottom of one tank to the bottom of the other, the tanks would equalize. How fast they equalize depends on the size of the pipe connecting the tanks.

Most Ultras have 2 switches connected to the batteries with very BIG wire and the other side of the switches are connected to a solid copper bar. If both switches happen to be on at the same time, we have the equivalent of a VERY BIG PIPE between the two batteries. If one battery is charged (a full tank) and the other is discharged (an empty tank), by connecting them together, EVEN FOR AN INSTANT, an enormous amount of current flows from one battery to the other, enough to make the cables HOT. If the charged battery is internally weak, it may not stand the strain and melt an internal connector between two cells. That's why on occasion, a battery that's OK one minute will suddenly fail.

The moral is always turn off one battery before turning on the other.

A better way to solve the problem of keeping both batteries charged all the time, even when the switches are both off, is to use a dual battery isolator (not less than 75 amps). They are available at all RV stores (and JC Whitney #14-1867N) for around \$35.

Again, ALWAYS remember, TURN OFF one switch BEFORE turning the other on.

The government standard for the grade fluid must be shown on the side of every container. The temperature listed is the boiling point of the fluid. This is the boiling point temperature of the fluid which is not yet absorbed any water. A more important number which is listed appears on the container is the equivalent wet boiling point (EWP) or wet boiling point. This is the temperature at which the fluid will

boil point after exposure to moisture. Notice even the boiling point of DOT 3 (silicone fluid) drops even though it is not supposed to absorb water. All those little air bubbles carry moisture. One interesting factor is even the wet boiling point of DOT 4 is nearly as good as the DOT 3 dry boiling point. I have a 1985 Buick Wildcat with a 1985 Buick Wildcat 2.000 cc engine. I would suggest you call Buick at 1-800-551-2200 to find out more about DOT 3, DOT 4 and DOT 5.

3. DOT 5 is a synthetic fluid that is not supposed to absorb water. It is a silicone fluid. The temperature listed is the boiling point of the fluid. This is the boiling point of the fluid which is not yet absorbed any water. A more important number which is listed appears on the container is the equivalent wet boiling point (EWP) or wet boiling point. This is the temperature at which the fluid will

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Many of us run with two batteries and conventional there are two terminals switches at the rear allowing selection of whichever battery was used. Some turn on both switches to charge the batteries when running. This needs to be done every time you stop. The problem is that you can't destroy batteries. The problem is that you can't destroy batteries. The problem is that you can't destroy batteries.

Why do you say? Think about the batteries as two water tanks one full of water and one nearly empty. If you run a pipe from the bottom of one tank to the bottom of the other, the tanks would equalize. How fast the equalization depends on the size of the pipe connecting the tanks. In fact, the equalization depends on the size of the pipe connecting the tanks.

Most ultra-narrow switches connected to the battery will very quickly and the other side of the switch is connected to a solid copper battery. If both switches happen to be on at the same time, we have the equivalent of a VERY BIG PIPE between the two batteries. If one battery is charged (a full tank) and the other is discharged (an empty tank), by connecting them together, EVEN FOR AN INSTANT, an enormous amount of current flows from one battery to the other, enough to make the cables hot. If the second charged battery is internally weak, it may not stand the strain and melt.

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CUT HERE

ULTRA VAN MOTOR COACH CLUB, INC. OFFICIAL BALLOT, 1993 ELECTION

Vote for one candidate only per office. A write-in space is provided for each office. Do not write in any name unless you have that person's permission, except for the Ernest Newhouse Award.

Completed ballots must be mailed to the Secretary as follows:

Maybel Griggs, Sec.
 c/o Cristy Barden (Do not send
 5537 Pioneer Road to Cumberland.)
 Boulder, CO. 80301

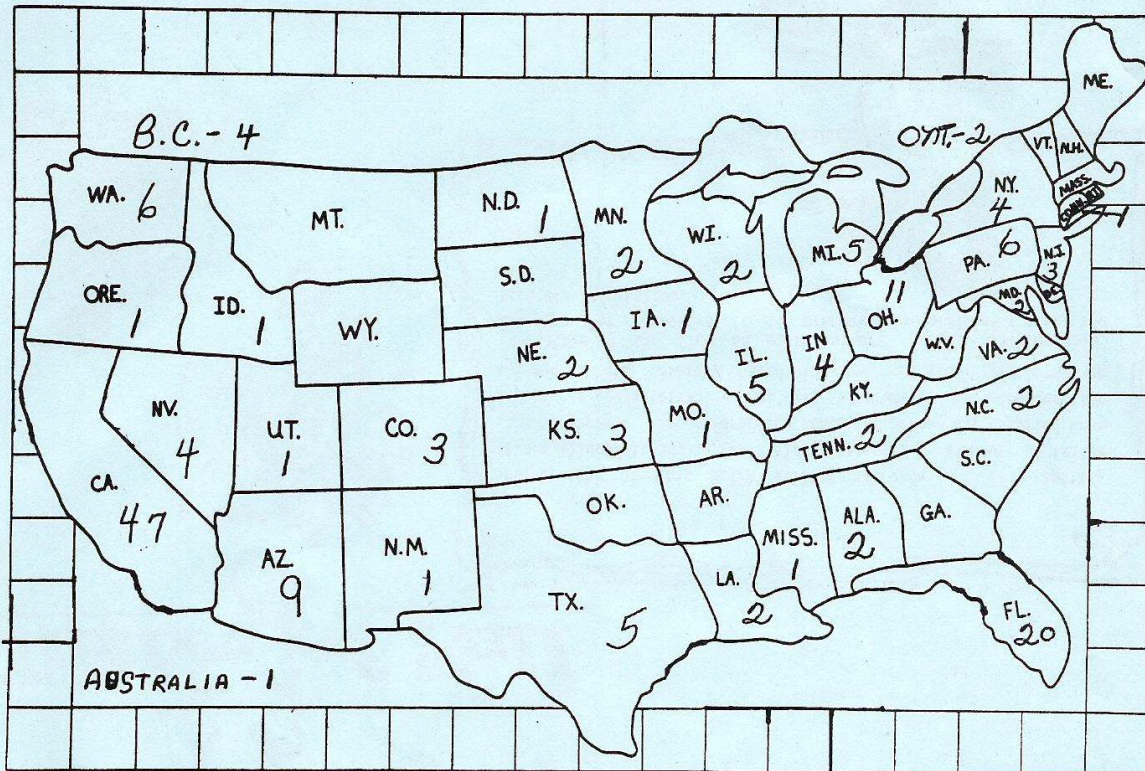
or hand carried to the National Rally. Mark envelope on lower left corner "ballot". Envelopes so marked will be opened only by the Elections tellers, appointed by the President at the National Rally. Ballot envelopes must have a return address.

All are reminded that dues for the Ultra Year 1994 are due at the National Rally. Please save your Treasurer the burden of having to send out reminders about back dues.

| <u>His Vote</u> | <u>nominee</u> | <u>Her Vote</u> | <u>nominee</u> |
|-------------------------------|----------------|-------------------------------|----------------|
| President | Gordon Harvey | President | Gordon Harvey |
| Vice President | Jean McMasters | Vice President | Jean McMasters |
| Secretary | Maybel Griggs | Secretary | Maybel Griggs |
| Treasurer | Louis Griggs | Treasurer | Louis Griggs |
| Director, West | Nobia Suckow | Director, West | Nobia Suckow |
| Director, East | Ruth Harvey | Director, East | Ruth Harvey |
| Director, East
1 yr. term* | Jim Foust | Director, East
1 yr. term* | Jim Foust |
| Newhouse Award | | Newhouse Award | |
| His choice _____ | | Her choice _____ | |

*To replace Doug Taulbee, resigned as E. Director after serving 2 years.

Membership by Location-



**APPLICATION FOR ENROLLMENT
MOTOR COACH CLUB, INC.**
NON-PROFIT ORGANIZATION



THE OFFICERS AND BOARD CORDIALLY INVITE YOU
TO ENJOY THE BENEFITS OF *Membership*

Join more than 400 other members, over 200 coaches, coast to coast.
Membership includes: Quarterly Newsletters, Membership Directory,
Copy of By-Laws and Club Decal.

Date Application mailed _____

Enclosed is our \$15.00 check to cover dues for the Ultra year (Nov.1 -Oct 31)

NAME _____ husband _____ wife _____ PHONE _____

ADDRESS _____ (PLEASE PRINT) _____ CITY _____ STATE _____ ZIP _____

Alternate Address: Summer Winter (Check one)

ADDRESS _____ (PLEASE PRINT) _____ CITY _____ STATE _____ ZIP _____

Membership: New Renewal (Check one)
Make of Coach: Ultra Tiara Travelon Associate: Make _____
Coach Number/s _____

Make check payable to: Ultra Van Motor Coach Club, Inc., and mail to Louis Griggs, Treasurer, 626 Brookfield Ave., Cumberland, Md. 21502.