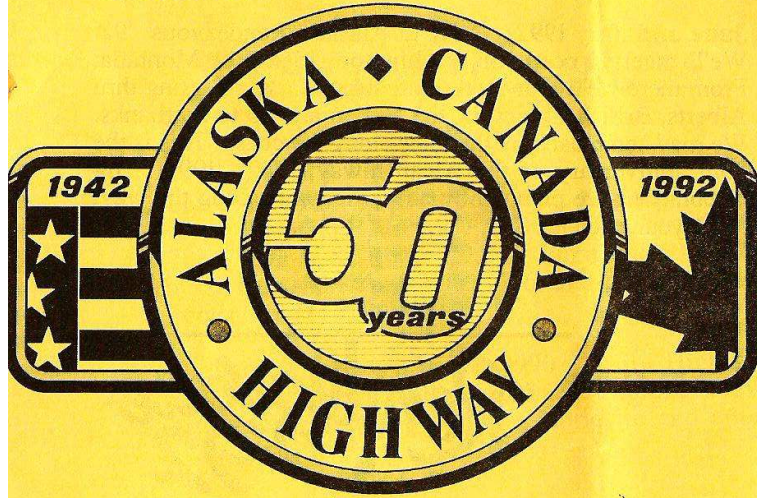


CLASSIFIED

#202 ULTRA VAN 1964 model. 110 automatic, ex Jim Craig, new batteries, tires, ready to roll. \$5250. Take a nice Lakewood or Greenbrier in trade. Donald W. Gilbert, 3806 Tanner, Midland, Texas, 79703. (915) 694-1006

FOR SALE. Four left and three right windshields for the ULTRA VAN; also one pair of windshields cut short for ULTRA VAN. Have windshields and all curved glass for all Corvairs. Gordon Harvey; P.O. Box 53, Smoke Run, Pa. 16681. (814) 378-5363.

WANTED ULTRA VAN sales brochures, such as "From Covered Wagon to Ultra Van", flyers, photos, factory correspondence and bulletins; owner's guides, etc. Any publications or publicity material issued by Dave Peterson or by Hutchinson, for my Corvair Historical Library. Dave Newell, P.O. Box 588, Orinda, Ca. 94563. (415) 223-4725 (collect).



15

WHALES ON WHEELS



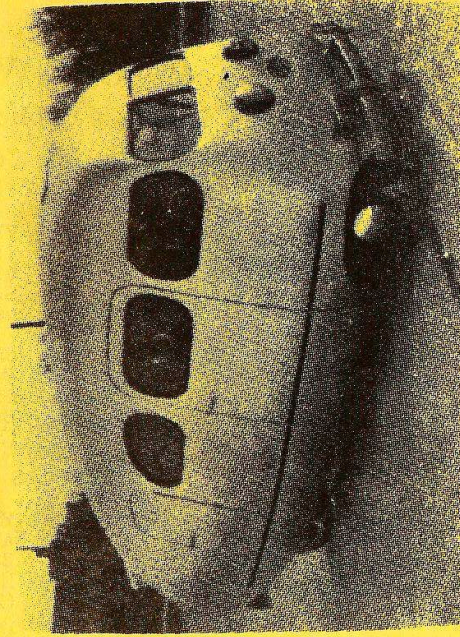
5537 Pioneer Road
Boulder, Colorado 80301

FIRST CLASS

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**GROUP
ULTRA VAN**

POWERGLIDE TRANSMISSION ISSUE



SUMMER 1990

VOLUME IX NUMBER 3

WHALE ON WHEELS

is a Quarterly Publication of
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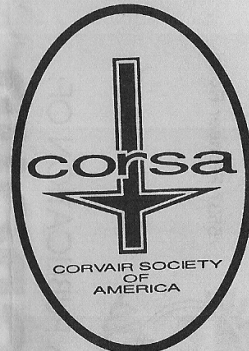
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GROUP ULTRA VAN is a Chapter of CORVAIR SOCIETY of AMERICA (CORSA) and is dedicated to the preservation and use of **ULTRA Vans**. This 22 foot unique motor home was designed by David Peterson and built in Kansas until 1970. About 360 units were built. Dues are \$4.00 Annually. Submit all technical information to the Editor.

COVER PHOTO:

In 1937, Alexius R. Pribil of Saginaw, Mich. had an idea for a vehicle that he felt would obsolete camp trailers of the time by combining the car and trailer in one compact unit. Called the Pribil, this one-off vehicle was 16 feet long, both 6 and 1/2 feet high and wide and was powered by a four-cylinder, 30hp Continental engine. The interior had sleeping accommodations for two, a folding dining table, refrigerator and a sink with a water tank. Pribil died in 1938, and mass production of his design was never realized. (thanks OLD CARS)



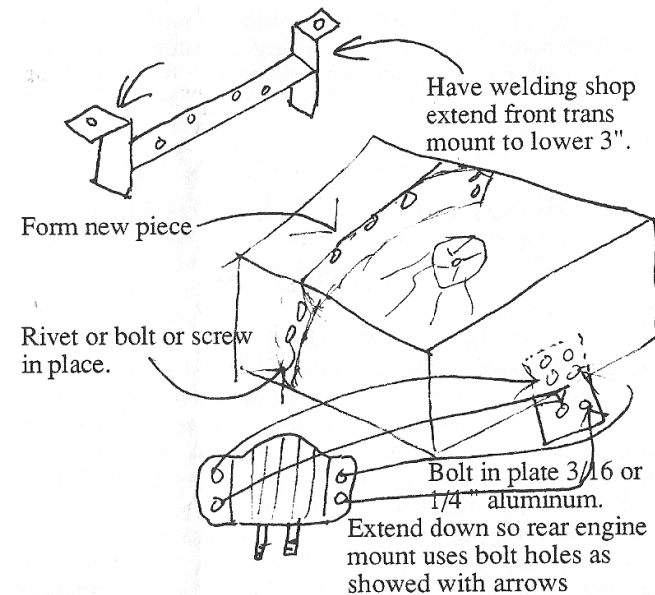
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FROM THE PRESIDENT

Jean McMasters # 330

LOWERING THE ENGINE

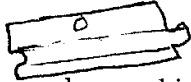
This can have many benefits, the most important is less strain of the universals joints. Better geometry is accomplished for the drive axles. In less than 4 hours you can change out the drive assembly.



Using the sheet metal from a 1965 or later model Corvair with no modifying. Install a new Corvair rubber

seal to walls of original sides and rear of engine box. Also to the new front panel you have made.

Cut original clamp into approximately 2" lengths using self taping crews fasteners to the sides, etc.



If you ever need a new drive train for an Untra Van, take it complete from a late model Corvair. Its a quick change over with better cooling, etc. I'm not a sheet metal mechanic I would like to hear from somebody on patching, repairing, etc. of the Ultra Van aluminum. i.e. corrosion and other damage.

I'm not a sheet metal mechanic I would like to hear from somebody on patching, repairing, etc. of the Ultra Van aluminum. i.e. corrosion and other damage.

CORVAIR POWERGLIDE TRANSMISSION UPDATE

by ART ELLER

I have just completed by 63rd commercial rebuild of Corvair Automatic transmissions. In addition there have been some thirty transmissions that I have supervised being rebuilt during the five transmission clinics we have held for Ultra Van and Corvair owners over the last many years. I would like to share some of the problems areas I have observed in these marvelous mechanisms.

Problem No. 1: At least 60% of the transmissions have had no normal oil changes. Many have oil that is thick like light engine oil and black as tar. I have to use carburetor cleaner to clean up the inner parts. This is a shame considering the small cost of changing said oil every 20,000 miles.

Problem No. 2: The famous "E" clip that has been mentioned frequently over the last couple of years is missing in some 50% of the transmissions. This is the Throttle Valve Locating Ring #25 as shown in the exploded transmission diagram of page 7-36 of the 1965 CORVAIR CHASSIS SHOP MANUAL. Usually, if your are careful, you can find the large peace in the pan and possibly the small ear that has broken off. It is essential to check the front end of the Low-Drive-Shift-Valve(6) located on the extreme right side of the valve body. There is a direct fluid route form the Throttle Valve to the Low Drive Shift Valve. This missing "E" clip and/or the small broken off ear can cause all kinds of erratic operation. The most common is an inability to upshift.

Problem No. 2A: If a Powerglide Transmission doesn't want to upshift or does so erratically, besides the "E" clip being missing and/or hung up, check the governor barrel that rotates via the gear on the inside of the aluminium case. See if this barrel has rings worn around it. The rings can cause oil leakage and prevent the governor from upshift operation. Try another governor. Be wary of new governors. I've had two cases where new governors were defective and the transmission still didn't upshift, but a good used governor worked fine.

Another possible upshift problem may be caused by improper adjustment of the Manual Valve Linkage inside the transmission control body. This may be required if the transmission has been changed or the range selector control assembly replaced. The adjustment is described on pages 7-31 and 7-32 of the 1965 Manual.

Problem No. 3: 90% of all the transmissions have problems with the two small rivets or drive pins that are pressed into the rear extension of Planet Carrier Assembly (Item 17 page 7-42 1965 Corvair Manual) The holes into which they are pressed are so worn that they are often lying on their side. These pins drive the rear pump that rotates whenever the rears wheels are turning. When the transmission upshifts, this pump provides all the oil for operation of the transmission. The front pump, driven by

the long shaft, simply idles. If these pins fall out they can destroy the rear pump on their way down to the pan. If pins are slightly loose, they can be rotated 90 degrees and pressed back in. They have three small ridges formed in the shank that bite into the hole side. If holes are badly enlarged, I drill new holes with a #32 drill. I usually drill them 90 degrees from the old ones. These pins engage two slots on the inside of the rear pump driven gear. These slots are always badly worn. I true them up with a file making sure that each pin touches both sides of their respective slot. Remember that the pins engage one side of the slot when engine is driving the car and then the back side when coasting. I always index with a center punch mark the slot and the mating pin by marking the end of the Planet Carrier stub shaft. A better picture is shown on page 7-48 figure 7E-44 (1965 Corvair Shop Manual) of these pins as inserted into the Planet Gear stub shaft.

Problem No. 4: The original 1960 to 1963 Powerglides had a conventional "L" shaped outer rubber seal on the larger Reverse Piston. Starting in 1964 this lip seal was changed to a square cut shape. I'm finding many of these square cut seals found in all available rubber-paper kits are leaking so much that 60 to 100 pounds of air pressure will not actuate the piston. Over the years, I have kept all good rubber from overhauled transmissions. I go and install one of these used regular lip seals and pistons works as it should. It may be that the square cut world work with transmission oil. I haven't tested this out a yet. The point to inject air for testing this piston operation is best seen in Fig. 7E-27 on page 7-41 (1965 Corvair Shop Manual). The piston must be inserted in its bore and the five 5/16 mounting bolts tightened. Of course the pump gears and wear plates are also in place. The injection hole is at the top of the high right hand oil groove on the right side of the center hole. I use the tip of a small oil can and insert the small end into the hole at the rear of this semicircular slot. A rubber tipped air hose is then applies. Be careful not to drive the piston clear out of its bore. Just make sure it moves without a large air loss.

Problem No. 5 Bushings for the Powerglide and the torque converter ar becoming very difficult to find. Clarks Corvair keeps saying that they will have them but other than the Converter bushing, none. I've had trouble with their converter brass bushings. When pressed in, it is too small by .002. Three converters hung up and the bushing spun which destroyed the seal and all the oil comes out. I has to had hone these bushings with a brake hone.

The most critical bushing is the Clutch Drum Bushing (1) figure 7E-35,page 7-45 (1965 Corvair Shop Manual). The oil from the pumps has to pass through this bushing area into the Drive Clutch Drum to actuate and hold the clutch pack continuously under drive conditions. Place this drum on the mating bearing projection on the Front Pump body. Be sure the Clutch Drum Thrust Washer is in place. Move the drum from side to side. Any movement indicated wear and the bushing should be changed.

The turbine shaft bushing in the Front pump body also may need to be changed. If you have this bushing and decide to change it, note that there is a hole in the bushing that must align in the same position as the hole in the old one. It is easy to get mixed up and rotate it 90 degrees. I did it once! If this is done no oil goes to the converter and full oil pressure goes to the main drive pack. The car sits there all locked up but doesn't go anywhere because there isn't enough oil in the converter.

UNIQUE OR UNUSUAL TRANSMISSION ENCOUNTERS

by ART ELLER

I saw a Corvair transmission sitting on the ground beside the main driveway of a wrecking yard. It looked newly rebuilt. The yard owner said two fellows drove in and ask to swap transmissions. They left this one. I bought

it for \$20. On opening it up it proved to be newly rebuilt but it had a bent front pump shaft well worn on one side there it had rubbed the inside of the turbine shaft. This is easy to happen when you are putting a transmission in under a car. Always fit the turbine shaft on over the pump shaft before trying to assemble the transmission to the differential.

I just took apart a very clean transmission that didn't have many miles since a prior rebuild. On disassembly, I could not get the low-reverse clutch pack and piston out of the case. After a lot of work and some force, it came out. To my surprise, all three fiber faced clutches were bare and welded to the stationary metal reaction plates. Wow! j What could have caused this. Perhaps pushing the transmission controls into reverse at high speed. I got new clutches and replaced the thick front reaction plate. IL could not get the retaining ring into its groove. I finally noticed that the reverse piston was not seated level in its bore. someone has substituted one long bolt among the five 5/16" bolts that hold the rear pump and reverse piston to the back of the case. The threaded holes for these bolts go through the pump plate and the long one was pushing the reverse piston forward and causing clutch pack to not fit. The previous rebuild had forced the parts together. These clutches were then dragging all the time resulting in the wear on the plates and the intense heat that welded them together. The bolt was only 1/8" too long!

In normal parts cleaning, I force cleaning fluid through the center of the front pump shaft. I watch solvent squirt out the tow vent holes. The one at the splined end that goes into the hub of the converter provided oil under pressure to deep the converter full and flowing for cooling purposes. The other hole is in the middle of the spit bearing surface where toe star drive washer is. This hole feeds oil from the pump and through the shaft to the converter. On this particular front pump shaft I noticed that no solvent was squirting from the washer end. Oh, Oh! I've never seen a plugged up shaft before. On closer inspection., I discovered that the metal cup plug pressed into the center hole at the star washer end had been driven in about an inch and one half.

This prevented any oil from getting to the converter. This must have happened when the car was going rather fast forward and the control lever was pushed into reverse. The highest oil pressures are obtained when the transmission is in reverse! Needless to say, the car or van didn't go forwards or reverse again.

A desperate call from an Untravanner. The transmission had quit and the Ultra Van have been pulled into a commercial transmission place. The transmission had been rebuilt but wasn't acting right. It would back up and start forward but quit and raced the engine at about 15 to 20 mph. At 15 to 20 mph. the rear oil pump takes over from the front pump. I bet the owner that they didn't see the tow small driving rivets. I told him to have the transmission mechanic take a flex magnet in the bottom of the wash tank. He told me later that that was where the rivets were and everything worked fine after their installation.

Another Ultra member phoned me from Florida with a similar story but his wouldn't go backward or forward. The garage had taken the transmission out twice and rebuilt it twice but it still wasn't working. After reviewing what they had done, I found that the garage had also had his converter rebuilt. Since the owner had watched the mechanic take apart and assemble his transmission and could tell me in detail what was done, it seemed that the only left was the converter. I suggested he have the shop once again take the whole transaxle apart and return the converter. The owner called me back with the news that the converter rebuild had left out an inner part. I assume he left out the turbine.

HELP

I'm in the process of finishing up and article for the CORSA Communique. It deals with what the ULTRA VAN is, different models, modification, specifications and a little

history. If any of you have information or photos that could be included in the article, please forward them to me.

Some of the questions I have are:

- When was the floor changed from 1/2" to 3/8" plywood. (maybe from #300 on).
- What Van number did they stop butt welding the steering shafts
- What van number had the 5 gallon hot water heater and not the instant one?
- What Van number started with the new style "A" arnes for the sway bar.
- What Van number started with the flush mounted plexyglass windows. (356-357?)
- What Van number started the late glass windows. (364?)
- What Van number started with the solid foam insulation. (#450?).
- What was the Van number of the last Corvair dash. The Cheve II dash.
- What van number started the 140 H.P. engines and the build up of the engine compartment.

Your Editor

POWERGLIDE OIL LEAKS AND THE ULTRA VAN...A CORVAIR HERITAGE!

by WALT DAVISON

Lets start with the books. A 1965 Corvair Shop Manual, a copy of Fred Johnson's "Corvair Lubricant Leaks", (Mr. Johnson gave an excellent tech session of this subject the the 1990 CORSA convention in Onterio, California), and the Corvair Society of America (CORSA) Corvair Technical Guide. These books ave available

through: CORSA, P.O. Box 550, Midlothian, Illinois 60445-0550. (708) 339-6241; Wall's Corvair Underground, P.O. Box 404, Hillsboro, Oregon, 97123. 1-800-825-VAIR; Clark's Corvair Parts, inc. Shelburne Falls, Mass. 01370 (413) 625-9776. When you order the Powerglide. Oil pan gasket, modulator with gasket, two governor "O" rings, throttle valve lever (dog-leg) "O" ring, and a couple of shift cable "O" rings. Obtain locally a can or two of an electric motor type spray degreaser, and a tub of hi-temp silicone RTV. While you're waiting for the books and pieces, you can clean the outside of the Powerglide "squeecky clean"

When the books arrive, take the time to really study Mr. Johnson's. Review the auto transmission section the G.M. Corvair Manual. Mr. Johnson covers the engine/differential in great detail, my only addition, is the modifications to the engine as outlined in Mr. Milton Binon's articles in the CORSA TECH GUIDE, Section 71, Pages 21-22.

Four special G.M. hi-strenght bolts. The number one leak, and one you, REALLY don't want, is where the Powerglide bolts to the differential. Four special G.M. hi-strenght bolts. Spec is 32 ft/lbs. The leak increases when the bottom two bolts get loose. They are always under heavy tension loads and the slightest looseness is a way to have more fluid leak out of your Powerglide. If loose, dirt may have entered ar part of the gasket may have blown out. You do need the WHOLE gasket, you don't need any dirt. Do what has to be done. Now you see why it pays to KNOW the lower bolts are tight. This is the FIRST place to check whenever a Powerglide leak is suspected.

Governor. Next in popularity is probably the governor. It is held in by one of those bolts that joins the Powerglide and differential. The leak is prevented by an "O" ring. The only secret here is to be sure the governor is seated ALL the way into its cavity. Sometimes this job goes better with three hands.

Vacuum modulator. This one doesn't stain the driveway. It puts automatic transmission fluid into the engine. No good. Remove the hole from the modulator, any sign of red automatic transmission fluid is obviously a leak. Replace the vacuum modulator. Make sure the old gasket comes off and new one goes on. Please use a thin one inch wrench. Waterpump pliers are so crude, and there are pitfalls to using them. All modulators are not the same, That's why you purchased yours through a Corvair supplier. Modulators should probably be changed on a time basis to prevent surprises. Possibly every 3 to 5 years.

Throttle Valve Lever. Commonly called the dog-leg. These rarely leak. Its a good thing.. This is fairly involved for the "tinkerer" mechanic. You might seek console from a Powerglide expert.

Front Pump Cover Seal. Rare. You might consult a Powerglide expert on this one as well.

Fluid Out of Vent. (at top of front pump cover). This is technically not a leak, but it sure makes a mess. Usually caused by fluid level too high, or some problem beyond the scope of this article. (leak internally at front pump gasket, maybe). More likely thought, too much fluid.

Shifter Cable. Where the cable enters the housing we have another one of those :O: rings. "Factory approved method", replace the "O" ring. Shade tree idea: if you look and measure the cavity in the Powerglide housing that the "O" ring goes into, you will see there is room for two. Now it just so happens that the 3/8 inch fuel line is a snug fit on the cable, and a snug fit in the housing, and it is Automatic Transmission Fluid (ATF) compatible. Maybe if we cut a piece about twenty thousandths to "long", so it will be compressed on assembly, we might have an "improved" seal. It works for me. But what about the leak where the black plastic sheath join the metal end. this is not rare. Too bad. Remove the cable, hang the ball lend down to ground level. Let it drain for an hour or so. Now using that spray can of degreaser, clean, clean, clean. The final result is almost entirely dependant on how clean you get this cable. Let it drain over night and spray some more. Take your time and

you might only get to fix it once. When its clean and dry, get that tub of RTV hi-temp silicon sealer and go to work. Any place there's a break in the plastic, and completely around the plastic/metal joint, a full seal is needed. Work it in well. Tow coats might help. Remember a 1/16 inch in the right place beats two inches in the wrong place. Check the manual and reinstall the cable. The real teat for cable leaks is not on the daily driver. Its on the "sitter". The torque converter slowly "leaks"(normal) down, overfilling the pan to above the cable level. This allows fluid to leak out of the cable if we haven't done a careful job.

Oil Pan. This poor guy sets blamed for most of the leaks to start with because he has a "guilty" look. So a new gasket is installed and the governor still leaks. Sound familiar? Re-read Fred Johnson's book on the way to install a pan gasket. Neat!

The Fill Tube. As this is the only 'drain', as such, in the Powerglide, it gets used too much. Install a real drain, teflon tape the fill tube, nice. Now it will be easier to "change" a quart of AFT every so often.

Torque converter seal. Differential to torque converter. If its in an "old" installation, it could be new seal time. In a new one, you might check the torque converter runout at the sealing surface.

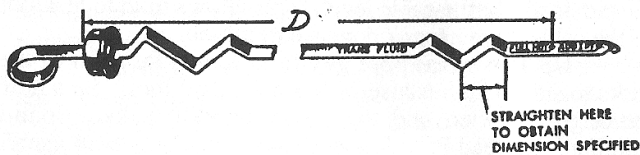
The Exotics. Pin hole leaks in the case, invisible cracks, etc. They happen. These rare leaks can give one a fit, but if your unit is clean, and the "normal" leaks are well taken care of, it'll at least be easier to find them.

AFT Leaking Out of Differential. ANY time you have an invisible AFT leak, check the level of your differential. This Powerglide to differential migration is caused by a bad differential seal. Suggest KNOWING that your differential is not OVERFULL (AFT) before leaving on trips. NO SEAL LASTS FOREVER. If you still have your original seals in your differential, you might think about changing them.

ATF Level. Remember, keep the fluid level BELOW the full mark. Check it "hot". I run mine below the ADD mark. Really take the time to get your fluid level

right. It REALLY is important. Besides, you won't be fooling with it much any more now that all the leaks are gone and the old Powerglide is clean and dry. DRY, doesn't that have a nice ring to it!

Powerglide Dipsticks. Here's the right length for Powerglide dipsticks. D = (1960 to 1964 - 19 1/8 inches) (1965 to 1969 - 21 9/16 inches)



It would seem to be a good idea to ALWAYS have full Powerglide gasket set on board. Maybe a couple of the infamous E clips too. Could save a person a couple of days sometime

UP-COMING RALLIES

September 30th to October 7th. National UVMCC Rally. The whitt R.V.Park, P.O Box 4571, Franklin, Texas 77856. On U.S. Route 79;; Phone (409) 8285377. Hosts: Pete and Rose Schuler (516) 368-3578: and Mariam Grootenhaar (616) 896-8630.

October 27 - November 7, 1990 Third High Desert Rally. Joshua Tree, California. 45 miles north of the Palm Springs area (3,200'). Rally held prior to and after the

annual GWFBT&SM. Hosts: Jim and Marlene Craig #544 (619) 366-9104.

November 2-4,1990. Great Western Fan Belt Toss & Swap Meet (GWFBT&SM). Palm Springs, California. RVing on the practice field at Angel Stadium. Host; San Diego Corvair Club. Contact: Etta Herman (619J) 277-3654.

November 9-10, 1990 Florida Corvair Affair. Holiday Inn, 530 N. Palmetto Ave., Samford Lake, Florida. Contact: Jackie Blakeley (813) 859-1934 (evening)

January 17-23, 1990 Phoenix, Arizona. Primitive camping near South Mountain.. Contact; Dan & Betty Reinhardt (602) 846-6920.

January, 1991 Miami, Florida. Host: W. Lain & Jean Guthrie (305) 235-2549.

March 10-17, 1991. Lake Wales, Florida. Lions Camp. Host: Walt & Marilyn Davison. (305) 444-1937.

June and July 1992. Rally to Alaska. Rendezvous '92. We'll meet in northern Washington, Idaho, or Montana. From there we'll tour up to Fairbanks Alaska. Passing thru Alberta, British Columbia, the Yukon and up to Fairbanks. We may come back on the ferry along the coast. This is the 50th anniversary of the Alcan hiway, 1942 - 1992. Big celebrations are planned by all participants along the way. Mark your calender

Rendezvous '92