

GMC Western States

Tech Center Number 42 – April 15, 2004



From our Technical Vice President

Gene Fisher

The spring rally at Palm Desert was an exceptional Rally. This was probably the finest resort that I have used. Not only were the facilities exceptional, but also some of the resources like pools, hot tubs, showers and computer connections, were open 24 hours a day. The resort had FREE WIFI Internet connections available as well as several stations for dial-up computer connections. GMC owner Heinz Wittenbecher, was able to rebroadcast the WIFI signal so that coaches over 300 feet away had FREE wireless connections.

Dave deGraffenreid put on an excellent Rally with superior arrangements for the Technical Sessions. The Vendors were located front and center in the parking and the Vendor Introduction meeting was well attended. Several of the Vendors participated in technical presentations and Donna Prishmont has again provided the following exceptional synopsis of the presentations.

I want to remind you that the Fall Rally is going to be a rally that you will want to attend. This facility will allow vendors to perform extensive Demos on our GMC coaches. I am sure a lot of windows and mechanical items will be replaced at this Rally. We expect over 200 coaches to attend and we are going to invite as many Vendors and special technical presenters as possible. The seminars will be as special as this Balloon Fiesta Rally. Be sure you sign up now to get a good parking spot, and remind your favorite vendor to attend this selling opportunity. The Rally web site is:

<http://www.california.com/%7Eeagle/balloonhome.html>

Keep checking this site to see what is going to be at the Rally

Gene Fisher

GMC Western States, Emerald Desert Rally, March 2004 Technical Sessions Summaries:

Interiors by Jim Bounds

GMC interiors were not designed by the RV industry. They were engineered at GMC. Coachman, Midas, and Avion came in later for a different look.

The original dashes are still functional, but you can update the dash with many options: use felt back vinyl; recolor the original and it looks updated; reinforce it with aluminum sheets (the old dash is very brittle from ultraviolet).

GMC floor plans were all the same, but you could change the seating arrangements. Buy the motorhome floor plan that you like. Don't try moving kitchens, etc. It's easy to replace a sofa, but not plumbing, etc. Get cabinet door fronts at Home Depot or Lowe's. Stay with 3 colors or less for interiors. Use earth tones, metallics (grays, black, chromes). Use light colors as your main color. Use 1/8th inch Luan for sidewalls.

Jim Bounds is not worried about weight. Using Corian-like solid surface countertops can add 40-50 lbs (also can use Wilsonart, Formica, etc.). There is a solid surface dining table that can be used in front of the sofa that slides 10 inches over the sofa when not in use. A solid pipe that goes down to the floor holds up the table. He uses stainless steel two-burner stoves, turned sideways – gives more space. Use home appliances instead of RV appliances, they are usually better, but watch out for size. Check the specifications. Use brushed aluminum behind the stove and sidewall.

On video equipment, video screens, computers: Flat screen mounted behind driver seat on floor. Stand made by Ergotron has three articulating joints; also, in the bedroom hanging against the wall of the closet, then swings out 45 degrees; XM radio; flat array satellite system about 4-5 inches tall. Don't hook up anything unless you put a fuse in line at the power

source, not at the appliance. If you use crimp connections, use a high quality crimp tool.

GMC 454 & 8.1L Motorhome Conversions
By Jim Rosenburg , 1-360-582-9743,
www.dynosources.com

Want a brand new GM engine that will go 200,000 miles with no maintenance required other than normal oil, filter and plugs?

Check out the 8100 Vortec engine built for 200,000 miles with 600 ft/lb of torque. Or the 454 (torque about same torque as 455; about 525 ft/lb) 12,000 (plus about 1500 for injection) The 8.1L costs about \$15,000 w/ factory fuel injection and the 454 costs about \$12,000 (plus about \$1500 for injection).

Additional costs will be: heavy duty torque converter \$750; Shuttleworth muffler with complete new exhaust system, \$750. The 8.1L with the works is \$17,500.

Rebuilt Engines: What to Get
Panel: Alex Sirum, Steve Ferguson,
and Frank Condos, Moderator

What to look for in an engine rebuild: How to become a smart buyer.

Alex Sirum: started out in WWII with his brother buying up junk cars and restoring them. This is how Alex learned. After school he went into Ford's garage and school and finally he was on his own. He has had a GM shop for about 20 years. He builds engines at his home now and that is all he does.

Steve Ferguson: started in high school, as one of the 25 top shop students and selected to go to GM school in the 60s. He started rebuilding engines in his garage. His sample prices for work done are listed below.

Alex: discussed how to pull out the engine, for those of you who are do it yourselfers. Check everything as you take it apart, you can reuse much of it. Watch for wear. Alex went in depth on the valves, what to watch for and having them reground. Guides machined out of the head at a machine shop. Rebore guide and put a bronze sleeve in it. Surfacing heads, only do it if needed. Resurface the exhaust manifold.

Steve: Pistons, much controversy. Uses cast pistons; cast iron rings; pressed wrist pins. Crankshaft: use an index to make sure the crank is ground properly. ATRA on-line a good article.

How do you find the right guy to do a good job: personal reference. Clean shop is not a good guide. Talk to guys at racetracks about a shop. If you don't have a good feel for him don't use him. Leak down test or compression test will tell you when you need a new engine. As an aid to you do-it-yourselfers, Alex and Steve included a 455 Rebuild Spreadsheet, which included:

Example Parts List:

Pistons	Silvolite 1630-30	\$296.00
Rings	Hastings 2M661-30	\$43.88
Rod Bearings	Clevite CB 542P-10	\$42.56
Main Bearings	Clevite 5M84MP-10	\$45.98
	Summit SLP-224-	
Oil Pump	41203	\$39.39
	Summit CRN-80800-	
Rocker Assbly	16	\$84.95
	Summit CRN-79708-	
Pushrods	16	\$98.69
Intake Gasket	Summit MRG-404	\$15.95
Lifter Valley		
Baffle	Mondello VT-581	\$39.00
Block Off Plates	Mondello HR-351	\$29.00
Rear Main Seal	Ford	\$10.18
Gasket Set		\$40.63
Cloyes Timing		
Set	Summit OLD-9-3113	\$79.25
Edelbrock Intake	EDL-2151	\$214.95
Valve Guides	KL-1923 11/32 Guide	\$23.84
Positive VG		
Seals	Intake and Exhaust	\$11.00
Core Plugs		\$12.00
Cam and Lifter		
Set		\$155.00
Total		\$1,282.70

Machine Work

Clean and mag block	\$80.00
Bore and hone	\$121.00
R and R cambearings	\$27.00
Resize rods	\$60.00
R and R pistons (pin fit)	\$52.80
Valve job (3 angle)	\$126.50
Install 16 guides	\$86.00
Cut and install 8 exhaust seats	\$121.00
Surface heads	\$20.00
Wetmag crank	\$20.00
Grind crank	\$66.00
Cross drill crank	\$80.00
Balance engine	\$140.00
Total	\$836.00

Free Dry Camping and Money Saving Tips By John Clement

Self-contained – dry camping.

Free parking: Wal-Mart, Cracker Barrel, doctors' offices, hospitals, bank parking lots, and church parking lots. During weather find a shopping center and park on the leeward wall. Exit Authority and The Next Exit are excellent publications that tell you what is in the vicinity of every exit off the Interstates.

Electricity. Generators. John uses solar power with additional batteries. He has four 6-volt batteries as well as the auto battery up front. Add solar panel (gets 12 amps from 3 panels, usually cost about \$100 per amp) and run it down the frig vent with a controller. He uses ceramic heaters that work on propane. Get a ground monitor or polarity tester. Purchase it at Harbor Freight or Wal-Mart. Put in florescent bulbs. Thinlites don't have enough light. Use regular fluorescent. Use a krinklecut cover over the fluorescents.

Water: Every gas station has a hose bib, use a water thief (a push on connection with a hose threaded end). Clean your fresh water tanks with a couple cups of bleach, add water, run around the block, let it sit all night. Dump it, then add about 10 gal of water and dump again. Add Taste Pure and purchase it at Wal-Mart. Use a good filter system.

Dump sites: John uses his macerator with a long extension hose for those times when you're not near the dumpsite. He also carries a 5 gallon container that he can use to dump sewage in a gas station bathroom!

John's Free Stuff:

To acquire all these items free, get them from your kids or grandkids for birthday, Christmas, etc! When they ask what you want as a gift, say here is a list and where you can get these things.

1. Use an in line Gas filter, Fram G15, get them at Autozone, etc.
2. Fan Clutch – make sure you get a heavy duty one.
3. Make up some boards that you can fit over the air cleaner to change that fan clutch when the engine is hot.

4. Weatheralert radio 12V, comes on automatically (Radio Shack).

5. You can park under overpasses to ride out hail and storms. Also use bank drive-throughs.

6. Grids, get some to put under your front tires to get you moving after a rain when you're parking on grass. Don't drive up on boards unless they are as wide as your tire.

7. Jacks – KYB jack, made in Compton, Ca., 12 ton jack, carry two to put them under your bogies when parked for more than a day or two. Use bogie hanger (jack extender). Let half the air out of the bags.

8. Motor Carrier's Road Atlas (Rand McNally for truckers). Can buy them at Flying J, Pilot, Love's (truck stops) on sale at end of year. Laminated pages with a binder.

9 Stay out of rest stops except in New Mexico.

GMC Onan Power Drawer Electrical Trouble Shooting by Duane Simmons

Following Duane's terrific handout, he discussed troubleshooting the Power Drawer. If you weren't at the rally, find someone that was and get a copy of this handout, dated March 15, 2004.

He lays out the things that need to be accomplished before trouble shooting even begins such as cleaning battery cables, check to be sure the batteries are fully charged, check the oil level, check the air filter is clean and much more.

Duane chooses common Onan problems such as: 1) Tries to run with start switch on, 2) Will not try to run (starter OK), 3) RC panel is non functional, 4) No starter action, 5) Will not respond to stop switch and, 6) No AC power output. Duane then lists distinct steps to take to find the problem and correct the faulty action.

He also lists many after market parts for the Onan such as a K & N washable air filter, oils filters, and starter mounting brackets. Also, there is a rebuild service available for the carburetor that has been discontinued by Onan.

Included in the handout is a data form to fill out as a trouble shooting aid that includes which terminals to measure DC voltage between and what the approximate values should be. And, to finish, is a list

of general repair comments such as: KEEP WATER OFF OF ONAN; Clean connectors and board terminals with electrical cleaner (CRC Inc. #2-26 from Home Depot); Repair J1 & J2 with cleaner; Verify low oil pressure circuit working properly to protect your Onan; and, there are steps to take before you declare the control board is faulty.

Duane added little gems to the talk including: the Voltage regulator – it's not needed today. Get rid of it. Remove the wires and tape them up. Throw the unit away; Use 2-26 electrical cleaner and lubricant and spray all the terminals on the board, relay and ground connection. Do this throughout the coach on every electrical connection. Remove excess drips as it will collect dust; if your starter hangs up, pull the wire out of the back that slips on. If it doesn't shut off then remove battery cable.

Finally, Duane does board repair and technical assistance. Contact him at 714-633-4731 or simnee@juno.com.

Do It Yourself Fiberglass Repairs By Fay Curtis

Fay's been doing fiberglass for 24 years and has made many complete racing car bodies and many more parts.

Basics for Repair

Equipment needed:

Grinder, (cheap one), air powered, die grinder, gnarly knobbed bit for small holes
Acetone
Gloves (latex) or hand cream
Dust mask
Goggles
Cotton Clothes
Paint tray or can (soup can for small applications)
Foil covered cardboard
Paint brush, 2-3 inch natural Bristol
Resin & Catalyst (West System epoxy, polyester [clear looking] or smc). 1 quart resin and 1 film holder canister of catalyst. Evercoat, Z-Grip – Non Clog
Lightweight Filler, Polyester Glazing Putty
SMC Panel Adhesive, Unsaturated Polyester resin
Fiberglass cloth, matt, roving, batix mat, etc. Different weights of cloth for strength
Pre clean material to be sure the area you are fiber glassing is very clean and wipe it down with acetone.

Procedure:

Clean repair area well – Preclean, then acetone, grind area – taper. Front and back, if possible. For cracks and holes lay in wetted fiberglass matt and build up area, let dry. Grind down to proper level, now either re-gel coat or skim coat with body filler. Missing pieces: do the same, but make fill panel or use tape.

On a small bolt hole, taper grind down an area of about ½ inch around the hole on both sides which will give you a better joint. Put your fiberglass cloth down, put epoxy on it with the brush, pick it up and put it on the hole. Use your brush to get all the air bubbles out. Fiberglass won't stick to foil, metal, packing tape, or saran wrap.

With spider cracks, you have to grind down through the gel coat where the cracks are located.

Buy polyester resin at a boat repair place, shower stall manufacturer, a gallon about \$10 which would cost about \$30 in a paint store. Open time depends on how much catalyst you use in it. Resin never totally cures. It is safe to work when it doesn't it doesn't gum paper. Sometimes overnight is good, but it depends on the temperature and humidity.

Laminated resins, finish resins and then polyester. Laminated will always stay tacky on top. Gel coat has no strength, it protects fiberglass from UV rays, helps prevent pinholes and colors the piece.

Junk Yard Gems by Bob Cook and Chuck Garton

Bob and Chuck's handout is enclosed with this newsletter. **Note that it has been updated since the Emerald Desert presentation.**

Note: Technical seminars and other technical articles printed in this newsletter are provided for information only. What you do to your coach and how you do it is your responsibility.

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