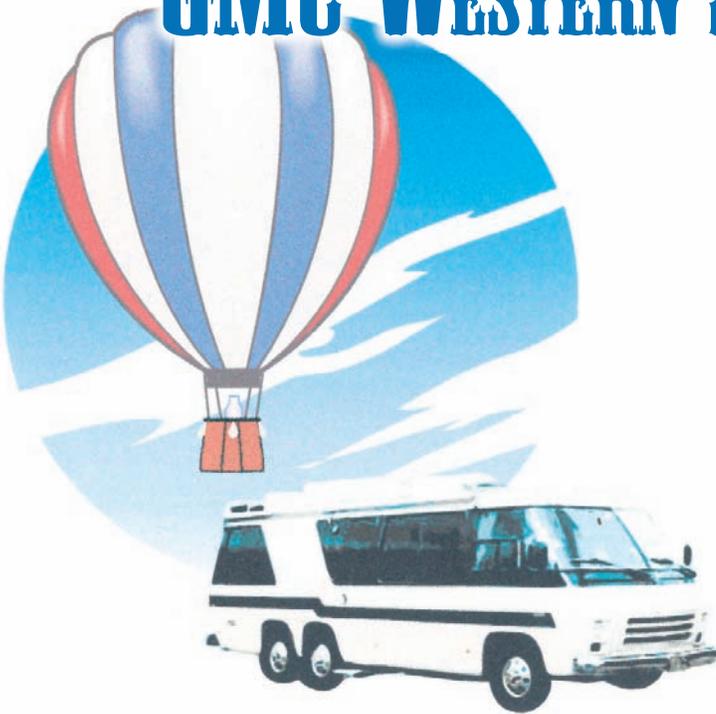


GMC WESTERN STATES NEWSLETTER



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President's Message

The dog days of August are upon most of us, except for those near the West Coast.

This is the time of the year that it is easy for me to postpone work on the coach or start and then let it rest. I have a carburetor that I rebuilt and have yet to install it. It's just too hot, especially while I adjust the idle or is it I'm swamped with those honey do items. Oh well, still time before the October GMC Western States Rally.

There are several important items to be considered at our business meeting this fall. We will have a couple of new faces being nominated for President and Technical Vice President. The Nominating Committee, Bill Hubler, Dick Olson and George Banovich are working on a recommended slate of officers that are ready to take the helm as soon as the votes are in. This Committee is so good that they had the recommended officers cornered by the end of the Spring Rally...way to go guys. As always, nominations may be made from the floor during the meeting.

A second action will be to vote on recommended changes to our Bylaws to keep them in line with some changes FMCA has made. A list of those changes and recommendation by our Bylaws Committee and Executive Board appears elsewhere in this Newsletter. We are thankful for the work the Committee devoted to this effort. Our members are ever willing to provide assistance wherever needed. Our Bylaws Committee is Bob Cook, Dorris Garton and Judy Cherry...thanks for your efforts, you are appreciated.

Finally, I am grateful for all the kind words, cards, telephone calls, and emails provided during my time out for the medical procedure. The ole ticker is working just fine (can almost keep up with the Mrs). Modern technology is a good thing. Hope you all will make tracks for the Oasis RV Resort in Las Vegas in October.

Frank





Chapter Bylaws

by Judy Cherry, Secretary
& Chairperson Bylaws Committee

FMCA has recommended some changes to our Chapter Bylaws. Outlined below are the major proposed changes. "Suggest" is the recommended action by the Bylaws Committee. A full copy of the proposed Bylaws can be provided, as requested, and will be available at the October Rally.

ARTICLE III - MEMBERS

2. Definition: The term "member" as used herein is defined by FMCA as a Family unit consisting of a husband and wife, or adult person(s) with or without children.

FMCA Proposes:

2- The term "family unit" is defined as a person; his or her spouse, or partner; dependents of each, regardless of age; non-dependent grandchildren and great-grandchildren aged 18 and under.

3- The term "membership" is defined as either a family unit or an individual or individuals owning a qualifying motor coach who share a membership number. **Suggest GMC be inserted in front of word qualifying**

4- The term "member" is defined as each adult who, jointly or individually, constitutes a membership. The voting rights of each member are defined in the description of each category.

5- A member must own a qualifying motor coach (motorhome) or at least 1/3 interest in a qualifying motor coach (motorhome) in order to vote or hold office in this chapter. **Suggest GMC be inserted in front of the word qualifying**

6- The term "qualifying motor coach" is defined as a self-propelled, completely self-contained vehicle that contains all the conveniences of a home, including cooking, sleeping, and permanent sanitary facilities, and in which the driver's area is directly accessible in a walking position from the living quarters. The terms motor coach and motorhome may be used interchangeably. **Suggest GMC be inserted in front of the word self-propelled**

7. DUES AND FEES:

Proposed by FMCA

E. Initiation Fee: New and reinstated members may be required to pay an initiation fee in an amount to be established by the chapter membership.

Suggest not adopting this change

ARTICLE IV - CHAPTER ADMINISTRATION

1. Chapter Meetings:

B. Business Meetings: The chapter must hold at least 2 business meetings each membership year at which a quorum is present. Said meetings shall be duly announced in advance to the membership. FMCA Proposes 1 business meeting... **Suggest leaving as currently stated in our Bylaws**

C. Annual Election: The election of Chapter Officers will take place during the second Business Meeting of the year (the Fall Rally)

FMCA Proposes: Officer Election: The voting general membership is to elect chapter officers, including a president, ___ vice president(s), a secretary, a treasurer, a national director, and an alternate national director. **Suggest: Officer Election: The voting general membership shall elect chapter officers, including a president, a 1st Vice President (nontechnical), and 2nd vice president (technical), a secretary, a treasurer, a national director and an alternative national director**

6. Annual Audit: An annual audit of the chapter's financial books and records shall be undertaken at the completion of each Chapter organizational year (to coincide with the start of the new term of Chapter Treasurer) and reported to the membership during the first business meeting of the Chapter's fiscal year (the Spring Roundup)

FMCA proposes: Annual Audit: An annual audit of the Chapter's financial books and records shall be undertaken and reported to the membership. **Suggest adopting FMCA change**

ARTICLE VI – OFFICERS

3. Terms of Office: The elected officers of this chapter shall serve a one year term of office, the Chapter’s Organizational Year. Officers take office immediately on election except for the Chapter Treasurer who takes office after the Annual Audit.

FMCA proposes: Elected officers of this Chapter shall serve a (1 or 2) year term of office, or until their successors are elected. **Suggest no change**

FMCA propose:

F. A member must own a qualifying motor coach (motorhome) or at least 1/3 interest in a qualifying motor coach (motorhome) in order to vote or hold office in this chapter. **Suggest inserting GMC in front of the word qualifying**

ARTICLE VII – EXECUTIVE BOARD

B. Duties: The Board helps the President with administrative details. Members of the Board are also expected to serve the President in an Advisory capacity.

FMCA propose: The Executive Board shall have general supervision of the affairs of the chapter between its business meetings. The Board shall be subject to the orders of the Chapter, and none of its acts shall be in conflict with the Chapter or FMCA. **Suggest adopting change**

ARTICLE IX – ADMINISTRATIVE ASSISTANTS AND SERVICES

1. Establishment: The Chapter may elect, by a vote of the membership, to use the services of one or more Administrative Assistants, hereinafter called Assistants. These are non-elected positions, selected by the Board, with the approval of the Chapter President to assist Chapter Officers with routine chores associated with the day to day operation of the Chapter. Such Assistant(s) may be responsible for, but not limited to, the preparation and mailing of newsletters and other published material, keeping up-to-date membership records and rosters, and preparing, mailing and processing of new member requests and member renewal notices and dues. Further, Chapter Officers may request, with the prior approval of the Chapter President, that other administrative duties be assigned to these Assistants.

The individuals selected by the Board to serve in this capacity will preferably, but not necessarily, be from within the Chapter’s membership, and will function under the direction, and provide support to the Chapter President. Compensation, if necessary, for Administrative Assistants will be determined by the Board, with approval by the Chapter President, and will be reported by the Chapter President to the Chapter membership at regular Chapter business meetings.

2. Alternative Services: As an alternative, the aforementioned services may also be purchased from commercial secretarial service providers if the Chapter membership elects to do so. The Chapter President, or a designated Chapter officer would be responsible for coordinating these services.

3. Expense Limit: The annual Chapter cost for administrative assistance (compensation plus miscellaneous (non printing or mailing expenses) or charges by commercial secretarial services shall not exceed 45% of the annual Chapter member dues receipts.

(Suggest deleting this entire section. Officers and volunteers have proficiently carried out these duties for years.)

ARTICLE X – AMENDMENT OF BYLAWS

1. Mandatory Amendments: Amendments applicable to Chapter operations shall be automatically adopted as may be required by mandatory amendments to the National FMCA Constitution and Bylaws. Such mandatory amendments are not subject to voting by the Chapter membership.

FMCA propose: National Bylaw amendments applicable to chapter operations shall be automatically adopted by the Chapter and are not subject to a vote by the Chapter membership. **Suggest adopting proposed change**

FMCA propose:

3. Distribution: Copies of changes, additions, amendments, or revisions to these bylaws shall be forwarded to the National (FMCA) office and to the National Area Vice President. **Suggest adopting change**

ARTICLE XI – LIQUIDATION AND DISSOLUTION

In the event of dissolution of the GMC Western States Chapter of the FMCA by majority vote of the Chapter, all of the remaining assets of the Chapter shall be contributed to the purpose for which the club is organized, or to a qualified non-profit charity or charities. See also Chapter policies.

FMCA Propose: This Chapter of FMCA may be dissolved by a majority vote of chapter members. All of the remaining assets of the chapter shall be contributed to the purpose(s) for which the chapter is organized, or to a qualified non-profit charity or charities. **Suggest adopting change**

Effective _____

Coaches for Sale

We welcome your ad. Ads will run for one year unless we are informed otherwise. Please inform us if your coach is sold before the ad runs out. The last four digits at the end of the ad represent the expiration date (month/year).

Contact: **Freddi Condos**, 559-683-5185, frettyc@sti.net

1977 BIRCHAVEN (23'') 98,000 miles, rear bath, 500 miles on 455 since OH by Jasper, 6 wheel disc brakes, TBI, upholstery, microwave, sat. antenna. Tranny OH with final drive upgrade. Front suspension rebuilt. 4KW generator with overhead exhaust 388 hrs runs great. 6 new tires when sold. Asking \$19,000 (in Arizona) John Glatz...outdog31@hotmail.com _____ **1110**

1974 GLACIER (23') Custom exterior restoration, side bath, chrome, and two-tone blue and silver paint. Mostly original interior, new carpet & linoleum; 7,600 miles on rebuilt 3.42 final drive; 17,600 on rebuilt 455 core motor; 106,000 total miles.

Full maintenance log on-line www.gallery.me.com/evedavidson

Reduced to \$15,500 OBO. Contact Akiko McKay 800-300-4819 Port Hadlock, Wa., xentgukk@gmail.com

_____ **0111**

1978 PALM BEACH (26') 68,896 miles, new headliner, toilet, converter, furnace. Asking: \$13,900 OBO. Contact Dan (715) 402-0112, dbyson@msn.com _____ **0611**

1976 GMC ELEGANZA (26') Newly rebuilt 455 engine, fuel injection, rebuilt transmission with 342 final drive, quad bag leveling system, disc brakes, 6KW onan generator, dash air conditioning, two roof air conditioners, one with heat, new McNeil dash board, awning, twin beds in the rear, microwave/convection oven, macerator, manuals, new frame body pads, outdoor shower. Asking \$7,000 (as is) Contact Pat Obetz - 760-758-1969 Ivobetz@aol.com

_____ **0811**



1999 FORD ESCORT WAGON SE 5 speed manual with less than 82,000 miles and 26,200 miles on tires. Tow bar is a Road Master Falcon 5250. Also included is Brake buddy tow vehicle brake system with a wireless alert. Asking \$3600 - for all Contact Walter Rugh (818) 865-2988 (home) or (503) 807-9115 (cell) (Former GMC Owner)

_____ **0811**

GMC WESTERN STATES TECH CENTER

The Braking System of the GMC Bogie

By Marc Trubert

We all have our own reasons to make improvements on our GMCs. The bogie braking system is an area that has received a lot of attention over the years. Several of our club members Chuck Aulgur (the pioneer), Rick Flanagan, Jim Kanomata and others have been actively pursuing study, testing and development of hardware to solve the problem of the not-too-satisfying performance of the OEM rear braking system of our tandem rear wheels (the bogie). We should all commend them for their effort and success. The discussion below is simply an attempt to shade some light on the problem and its solution.

The GMC Bogie

To understand the need for an improved braking system for the OEM bogie, it is essential to review how the existing bogie behaves when braking. This is by no mean intended to discredit the GM engineers who came up with the original design some 40 years ago in the late 60's or very early 70's. The GM engineers did the best they could with what they had at the time, within the budget they had and within the time that was allocated to them. They certainly produced an outstanding machine and we, the users of today, are glad they did what they did; we love our GMC.

The bogie has two wheels in tandem. Each wheel is mounted on a spindle attached at one end of a supporting arm. The other end of this arm is articulated on the coach frame by a pivot. The front wheel is in front of its pivot (the front pin) and the back wheel is behind of its pivot (the rear pin). In addition the two arms are connected together by an inflated **single air bag** which provides a spring supporting the rear weight of the coach. This was an advanced design.

It should be first noted that because of the air bag, the two wheels **are not independent**; the load on one wheel is reacting on the other wheel through the inflated air bag.

In addition a very significant feature at the crux of the matter is that the brake shoes for each wheel are installed on a back plate bolted behind the spindle directly on each supporting arm that is not fixed, but **pivoting** on the frame.

From the technical literature we know that the braking force generated by a rolling tire is proportional to the weight carried by the tire:

$$\text{Braking Force} = \text{Weight} \times \text{Coefficient of friction}$$

The coefficient of friction has a value less than one which varies significantly with the road pavement condition and the tire condition. Therefore evaluating the braking force is an imprecise exercise. However, since an exact knowledge of the braking force is not needed for this discussion, it is sufficient to know that the braking force is proportional to the weight carried by the tire. The more weight carried means the more braking force produced.

We will only consider the simple case of a coach moving straight forward on a level road with no lateral motion. When the brake is applied the total braking force on all the tires has to satisfy Newton's law:

$$\text{Total Braking Force} = \text{Mass} \times \text{Deceleration}$$

The braking forces are applied at the boundaries between pavement and the tires i.e. below the center of gravity of the vehicle. Therefore, they will create a torque about the center of gravity that will cause a lifting of the back of the coach. This condition is not specific to a motorhome; it is true for any vehicle on the road. It is beyond this discussion to attempt to evaluate the resulting vertical and angular accelerations and the corresponding lifting as it would require an extensive dynamic problem to be solved. However, the lifting effect will be only a transient dynamic condition that will lead to a new equilibrium of forces in the vertical direction. This lifting effect will shift a portion of the **total load on the bogies** to the **front wheels of the coach** but will not redistribute the load within the bogies.

The two wheels of the bogie are equally loaded only when the vehicle is at rest or moving at a constant speed on a level and even pavement (Fig. 1).

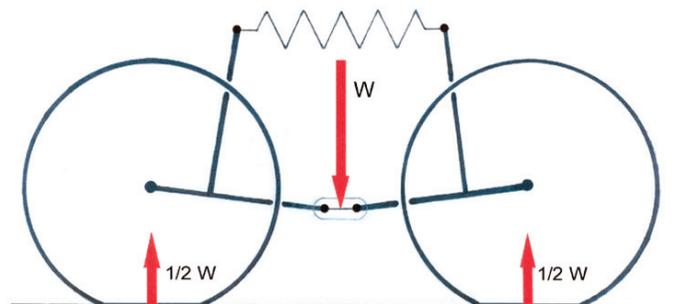


Fig. 1 System at rest or moving at a constant speed on level ground. Both wheels equally loaded.

This equally loaded wheels condition is no longer true when the **vehicle is in motion and the brake is applied**. In the braking condition the load on the back wheel is shifted to the front wheel of the bogie for 3 reasons:

1. The front wheel is loaded by a horizontal force (the braking force) originated by the reaction of the pavement on the tire pulling the coach backward, i.e. creating a braking action on the coach. Since the front wheel is in front of the pivot point, this horizontal force on the tire, through the drum, the shoes and the back plate applies a pitch torque on the pivoting arm at the spindle end making the arm rotate “downwards” in the direction of the coach motion (pitch) (see Fig. 2). This pitching of the pivoting arm is reacted by the frame at the front pin on one end of the arm and the tire to the ground on the other end. The net effect is a combination of a squashing of the tire and a lifting of the coach at the pivot point. How much is the coach lifted and how much is the tire squashed is an open question, but in any event the vertical load on the wheel is increased.

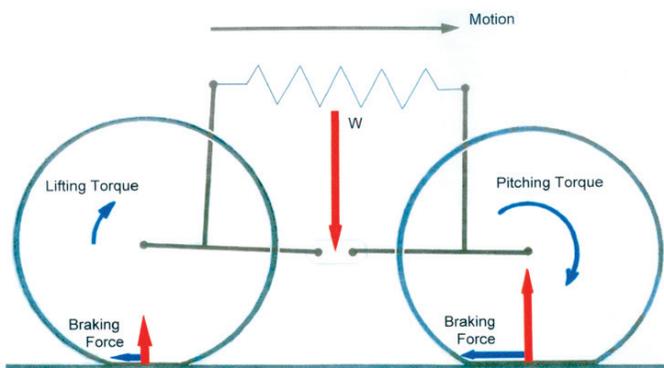


Fig. 2 Intermediate case: the front wheel carries more load than the back wheel and produces more braking.

2. The back wheel is also loaded by a horizontal force on the tire creating braking and also applying a torque on its own pivoting arm. However, since the back wheel is behind the arm pivot point, the situation is reversed from that of the front wheel; the back wheel tends to be lifted from the ground. The tire is unloaded (instead of being more loaded) and the other end of the arm applies a vertical down force on the coach at the rear pin. This unloading of the back wheel shifts a portion the rear vehicle weight to the front wheel of the bogie to maintain the proper equilibrium adding to the load already generated in item 1.
3. In addition there is another significant effect because the **two wheels are not independent**; the pitching of the arm of the front wheel unloads the air bag having the net result of unloading the back wheel even further than item 2 above.

The back wheel now carries a lesser load of the coach weight creating less braking force on its tire. In other words most of the weight and the braking force are now carried by the front wheel of the bogie, the back wheel becoming gradually ineffective to carry the weight and the braking until it finally skids, producing negligible braking action and damaging the skidding tires causing flat spots (Fig. 3). At that point, in the limit, the braking of the coach is done by only 4 wheels (2 front wheels of the bogies and 2 front wheels of the coach). The front wheels of the two bogies are now overloaded, practically carrying all the rear weight of the coach. This is a detrimental situation for a fully effective and safe braking.

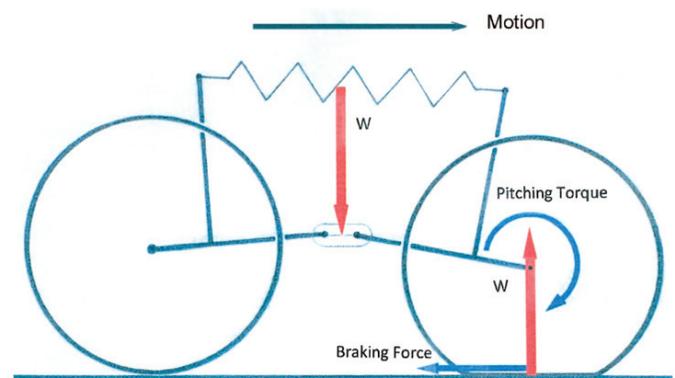


Fig. 3 Extreme limit case: the back wheel just leaves the ground. All the rear load of the coach is supported by the front wheel. The rear wheel carries no load and produces no braking.

Chuck Aulgur Anti Skid System

The description above shows that when the brake is applied, the resulting rotation of the two supporting arms is the cause of reduced braking.

The pioneering insight of Chuck Aulgur has been to recognize that the key to a successful re-design of the bogie for improved braking was to eliminate the rotations of these supporting arms. This is accomplished by removing the non-moving braking hardware from the supporting arm and installing this hardware on a separate box which can react the braking force directly on the frame using a reaction bar connecting the box to the frame. Furthermore, by necessity the box is connected to the OEM supporting arm by a bearing in order **to induce no torque on both supporting arms (front and back)**, thus preventing their rotation when the brake is applied. This absence of arm rotation eliminates all the load shifting shown in items 1,2,3 above. With the Chuck Aulgur Anti Skid system the bogie will behave like Fig. 1 (two wheels equally loaded) to which braking forces will be added to each wheel with no arm rotation as shown on Fig. 4. Consequently all the four wheels of the two bogies remain (nearly) equally loaded

and the coach is most efficiently braking on six wheels. The GMC bogie now behaves as two separate axles.

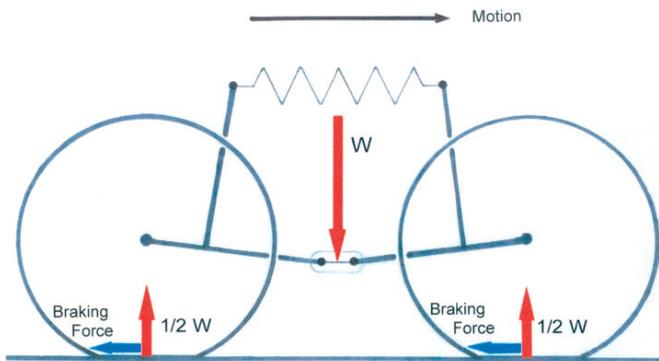


Fig. 4 Bogie braking with Chuck Aulgur Anti Skid System.
No torque applied on the supporting arms and no local lifting of the rear of the coach.

For reasons of simplicity and cost the drum/shoe type of brake had to be replaced by the modern disk/caliper brake system. The disk/caliper brake universally used today in the Industry has been proven better than the old drum/shoe brake type. Upgrading from drum to disk, by itself, is already going in the direction of better braking and easier maintenance.

Finally let us note that the overall lifting effect of the back of the coach due to the fact that the total braking force is applied below the center of gravity of the vehicle will still be present even with the Chuck Aulgur Anti Skid System

The Two-Bag Bogie

A rear suspension system that replaces the single bag of the bogie by two bags has been available to the GMC community for several years. It was originally introduced by Lee Harrison and subsequently improved by Jim Kanomata/Rick Flanagan under the label “Quadra Bag”. The Quadra Bag system does not eliminate items 1 and 2 presented above, but an important feature of the two-bag system is that it makes the two wheels independent of each other since each bag reacts directly on a piece of hardware attached to the frame. As a result item 3 is **eliminated** and the local lifting of the back wheel is reduced as compared to the OEM single bag bogie. This does improve the braking, as the owners of GMC with Quadra Bag can attest, but the **ultimate improvement** remains the Chuck Aulgur Anti Skid System.

Note: This is much longer than most tech notes, however, it is the single most important improvement to come along since the GMC was manufactured. This entire system disk brakes and all will be raffled off at GMCWS Las Vegas in Oct. See GMCES.ORG for further details.

Steve Ferguson, GMCWS Technical VP



Sittin’ to the Right in a GMC

(No political pun intended)

by Lillian Trubert – First Vice President and Rally Reporter

The first GMC rally I ever attended had a Jim Dandy seminar for us noble “sittin to the right people”, which entailed gluing pinto beans on tongue depressors. The original plan was to glue little rocks on the depressors, but an avalanche of rain necessitated the change to pinto beans. I want to know who carries “soaked over night” beans in their coach. The seminar leader did, otherwise we would have been seminarless.

My point is a heart felt passionate appeal for assistance in developing fun activities for our ladies seminars. Please share, with me, your expertise, hobby, passion or even a good idea for the seminars, I will be coordinating. Otherwise you might find yourself gluing something on a stick. At least think about it.

I’m interested in those innovative ideas or expertise you possess for Seminars for the ladies that you are willing to share with me. Give me a call at your earliest convenience.

Western States Rally Schedule

OCTOBER 17-22, 2010
 OASIS, LAS VEGAS RV RESORT
 LAS VEGAS, NEVADA
 HOSTS: MICHAEL AND JUDY CHERRY

APRIL 27 – MAY 1, 2011
 SAN LORENZO RV RESORT
 KING CITY, CALIFORNIA
 HOSTS: PHIL AND JO ANNE HERNANDEZ

FALL 2011
 ST. GEORGE, UTAH
 HOST: STEPHEN STOLLEY

SPRING 2012
 CALIFORNIA COAST
 HOSTS: DE GRAFFENREID AND TROVAO

2010 Newsletter Publication Date Schedule

	4th
Publication Dates:	Nov 19 th
Info to Coordinator:	Nov 5 th
To Publisher:	Nov 10 th

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GMC Western States Newsletter
 Designed and Printed by Ideal Services, San Diego, CA

If you would like to submit an article or item,
 email Freddi: frettyc@sti.net

The GMC Western States Inc, chapter of the Family Motor Coach Association, is comprised of GMC Motorhome owners from all fifty states and the three southwestern provinces of Canada. The Chapter purpose is to promote the preservation of the GMC Motorhome with a technical program of professional seminars and published information and to further the mutual association, membership, enjoyment and common interest of GMC Motorhome owners, their families and friends. Web site: www.gmcws.org, Billy and Debbie Massey

DISCLAIMER: NEWSLETTER ARTICLES ARE CONTRIBUTED BY MEMBERS AND ARE PUBLISHED AS A SERVICE TO MEMBERS. ACCURACY IS NOT GUARANTEED. INDEPENDENT VERIFICATION IS URGED.



**GMC Western States
Autumn at the Oasis
October 17-22, 2010
2711 Windmill Lane
Las Vegas, Nevada**

Registration Form:

Print Names (as you wish them on nametags): _____

Address _____ City _____ State _____

Telephone _____

Handicapped Site Needed? Yes ___ No ___ Are you a vendor? Yes ___ No ___

Vegetarian Meals Needed? Yes ___ No ___ For how many people? _____

First GMC WS Rally? Yes ___ No ___ Do you travel with pets? How many? _____

GMC Coach License _____ State _____

Tow Vehicle License _____

Emergency Contact _____ Phone _____

Coach with two people: \$365.00

Coach with one person: \$280.00

Each additional person: \$94.00

Total Amount Enclosed: _____ US Funds

Make check payable to **Michael Cherry GMCWS** and mail check and registration to:

Michael Cherry, 2212 W. Tonto Ridge Rd., Prescott, AZ 86305

Please provide registration and payment no later than September 20, 2010.

Cancellations after Sept. 20, 2010 may not receive a full refund. Please contact Oasis directly for early or late days: 1-800-566-4707.