



# HORIZONS

## March April 2002

### The Loose Nut: Gearhead Miata Ramblings

by Kevin Morrison

On first-generation Miatas, a common place for an oil leak to develop is on the back side of the engine, at the crank-angle sensor. This sensor sits on the back end of the cams (intake cam on '90-'93, exhaust cam on '94-'97) and tells the ECU where the crankshaft is in its rotation. The ECU uses this information to time the spark plug ignition. The sensor looks like a mushroom and has a shaft that engages into a recess on the back of the cam cover, with a rotor with "ears" or "dogs" that engage a slot on the end of the camshaft. On the shaft of the mushroom there is a rubber o-ring that prevents engine oil from seeping out. Over time this o-ring gets hard and no longer seals well enough to prevent leaks. It doesn't seem like much could leak out here, but I've seen a car leak as much as a quart of oil every 1000-2000 miles.

Some unscrupulous shops (none around here that I know of) have reportedly charged people upwards of \$200 to replace this \$2 part. Any car over about 5 years old (which all early Miatas now are) should probably have this o-ring replaced. Save yourself some money and do it yourself.

I'll just map out the steps to replace that o-ring as logically as I can. It's pretty simple, but can be frustrating due to the limited access to the back of the engine. Of course you will need to obtain a new o-ring. You can get one from a dealership or mail order it from one of the many Miata after market vendors. A good auto parts store may be able to cross-reference a generic replacement for you.

1) You have to remove the crank angle sensor. It is held in place by a single long-headed 12mm bolt. You will need a 12mm box-end wrench with a slightly angled head. The longer the better. A 12-point wrench will make it a lot easier than a 6-point because of the limited space. If you don't have a wrench of this description, Sears sells a Craftsman wrench that is perfect. It's the one with the polished finish and costs about \$8 or \$9.

2) Before you touch anything, use a sharp instrument, like a file, to mark the position of the CAS. You must return it to the same position or your timing will be off.

If you know how and don't mind setting the timing afterward, using a timing light, don't worry about marking it.

2b) there's a wire harness plugged into the CAS. Unplug it and move it out of the way.

3) Ok, reach back there with your 12-point, 12mm, angled box-end wrench and get it on the bolt. It's very tight back there. Loosen the bolt. Be careful not to turn it the wrong way. It's "lefty loosy", but you're working backwards, so it's easy to go the wrong way. It is possible to strip this bolt and you really don't want to go there.

4) remove the bolt and put it somewhere safe. The CAS is now free and with a little wiggling, you should be able to pull it out the back of the cam cover. Be very careful here. You need to note the position of the drive dogs upon removing the CAS from the engine. It will only go back in one way. There is a small notch on one of the "ears". Note its position and remember which way it goes when you try to put it back in.

5) See the o-ring? It's probably hard as a rock, which is why it's leaking.

6) You'll notice that the CAS is in your hand, behind the engine, but you can't get it out because it's too big. That's ok, you don't really need to get it out. You can replace the o-ring while holding the CAS in your hand behind the engine. It's tight and awkward, but it can be done. If you really want the CAS out of there so you can work on it easier, you may be able to weasel it out. You may also have to loosen the coil pack and maybe some of the brake lines to move them out of the way. It's up to you whether you want to mess with all of that. It does make removing the old o-ring and installing the new one easier.

7) Get the old o-ring off. Put the new one on. This will be self-explanatory.

Continued on page 2



8) Now the fun part. Remember how the "ears" on the drive dog were oriented, put it that way, and slide the CAS back into the recess it came from. It will be very tight because of the new o-ring. Smear some motor oil on it to make it easier. The ears have to be perfectly lined up for them to go back in all the way, so just fiddle around with it until it "snicks" into place. This could take a few minutes. You may have to push really hard. Just when you think it's never going to go back in, it will.

8a) Have a beer or a nice fruit drink. You've earned it!

9) Put the bolt back in, line up the reference mark you made earlier, and then tighten the bolt down snug. Don't put monster torque on it. Plug the harness back in.

10) get a rag and clean up the old oil on the back of the engine below the CAS and check it again in a day or so to make sure the leak is fixed.

That's it! You just saved yourself \$200. Go buy some lottery tickets, or send some money to me to celebrate.

Next issue: some other obscure mechanical procedure you can do yourself.



## NEWS FLASH!!!

Due to a scheduling conflict with the Motorcycle Driving School at the St. Petersburg College, the March Autocross will now need to be held on SATURDAY, March 23, 2002, NOT SUNDAY, the 24th as previously announced.

This will unfortunately conflict with the trip to Mt. Dora to see the wooden boats with the MG Club.

We will continue to hold both events, members will just need to decide which event they would rather attend!

Sorry for any inconvenience this may cause.

Jonathan Skinner (Autocross Director)

From Loren (in Kansas, a soon to be member) : I'm not sure who laughed harder at this, me or Cathy! To make it even better... I just saw a message that said something about pix and clicked on the link without reading the message first. I didn't know about the cone until I saw the first picture! I cracked up so hard that Cathy HAD to come look!

That was too cool! I had a good time, and I wasn't even there!

From Kathy: (Loren asked us to name a cone after him since he could not come to the autocross) We DID have fun and Josh was a good sport about being a "conehead". The car that "hit" you was Kim's very own Ziggy with her son Josh being our hitman. The weather was perfect and warm for our first event. Though we got off to a late start, the runs went well and we had about 30 - 40 folks running and working. There were quite a few other folks from the club (myself included) who came out to help work the trailer, lights, register and sign people in and go get food and drinks as needed. We had Pizza for lunch and ended the event with Fun Runs for the SPCA (our charity). With our new sponsorship (Courtesy Mazda of Tampa) a certainty, the club looks forward to bigger and better events, improvements in the equipment and even more fun and driving as the year progresses. Spread the word and Loren...you guys get on over here! : )



Loren



You ARE what you drive!

Acura Integra - I have always wanted to own the Buick of sports cars.

Acura Legend - I'm too bland for German cars.

Acura NSX - I'm impotent.

Audi 90 - I enjoy putting out engine fires.

Buick Park Avenue - I'm older than 34 of the 50 states.

Cadillac Eldorado - I'm a pimp.

Cadillac Seville - I'm a very good Mary Kay salesman.

Chevrolet Camaro - I enjoy beating the hell out of people.

Chevrolet Chevette - I like seeing people's reactions when I tell them I have a 'Vette.

Chevrolet El Camino - I am leading a militia to overthrow the government.

Chrysler Cordoba - I dig the rich Corinthian leather.

Datsun 280Z - I have a kilo of cocaine in my wheel well.

Dodge Dart - I teach third grade special education and I voted for Eisenhower.

Dodge Daytona - I delivered pizza for four years to get this car.

Dodge Dakota - I've always wanted a womans pickup truck

Ford Fairmont - (See Dodge Dart).

Ford Mustang Cobra - I slow down to 85 in school zones.

Ford Crown Victoria - I enjoy having people slow to 55mph and change lanes when I pull up behind them.

Geo Storm - I will start the 11th grade in the fall.

Geo Tracker - I will start the 12th grade in the fall.

Honda del Sol - I have always said, half a convertible is better than no convertible at all.

Honda Civic - I have just graduated and have no credit.

Honda Accord - I lack any originality and am basically a lemming.

Infiniti Q45 - I'm a physician with 17 malpractice suits pending.

Isuzu Impulse - I do not give a damn about J.D. Power or his reports.

Jaguar XJ6 - I'm so rich I will pay 60K for a car that is in the shop 280 days per year.

Kia Sephia - I learned nothing from the failure of Daihatsu Corp.

Lincoln Town Car - I live for bingo and covered dish suppers.

Lincoln Navigator - I love scaring the crap out of the guy who is driving a civic.

Mercury Grand Marquis - I'm an AARP member and need my social security for the car pay - ment.

Mercedes 500SL - I can go 0-60 in about 6 seconds if the car doesn 't fall apart at 50.

Mercedes 560SEL - I'm dating a mechanic.

Mercedes ML320 - I'm a badass soccer mom.

Mazda Miata - I do not fear being decapitated by an eighteen-wheeler.

MGB - I'm dating a midget.

Mitsubishi Diamante - I don't know what it means either.

Nissan 300ZX - I have yet to complete my divorce proceedings.

Nissan Maxima - I couldn't afford an Infiniti.

Oldsmobile Cutlass - I just stole this car and I'm going to make a fortune off the parts.

Oldsmobile Bravada - I laugh in the face of the guy who's driving a Blazer.

Peugeot 505 Diesel - I'm on the EPA's Ten Most Wanted List.

Plymouth Neon - I sincerely enjoy doing the Macarena.

Pontiac Trans AM - I have a switchblade in my sock.

Pontiac GTO - Gas, Tires, & Orgasms.

Pontiac Aztek - Too easy.

Porsche 911 Turbo - I have a three inch thingie.

Porsche 944 - I'm dating big haired women that otherwise would be inaccessible to me.

Rolls Royce Silver Shadow - I think Pat Buchanan is a tad bit too liberal.

Saturn SC2 - (See Honda Civic).

Subaru Legacy - I have always wanted a Japanese car even more inferior than Isuzu.

Toyota Camry - I'm still in the closet.

Toyota Land Cruiser- I would go off road if I could.

Volkswagen Cabriolet - I'm out of the closet.

Volkswagen Microbus - I'm trippin right now.

Volkswagen Beetle - I still watch Partridge Family reruns.

Volvo 740 Wagon - I'm very frightened of my wife



## Notes from Jan 13th Sun Riders Miata Club Board Meeting

### Agenda:

> autocross stuff

> Scheduled for March and May

> update on the incorporation of club

> Kevin is still working on this.

> Courtesy Mazda involvement (see notes on autocross section)

> Courtesy to be a major sponsor in return: name on banner, newsletter coverage (Kathy D), web coverage (Kevin M). Cher checking to see if they will provide banners to promote. At events they will have items for sale. Just a point of clarification about the amount of sponsorship money from Courtesy: It is \$1,800.00 for the whole 2002 Season. This year we will have our usual 6 events, and we will add a Driving School. Courtesy will be the Official Sponsor of the Sun Riders Autocross Series. The Name of the Series and the Banner will reflect both the Courtesy name and the Sun Riders name. We are very excited about this new level of support for the Autocross Program. Jonathan anticipates that we will now be able to dedicate funds for an upgraded timing system, possibly start our own cones program (Adopt a Cone, where we get to purchase and decorate a cone?) perhaps even have Courtesy Mazda/Tampa Bay Sun Riders t-shirts made up for event participants. Thanks to Cherie and Courtesy Mazda for their support!

>Events: SEETHE WEB PAGE OR FLYER SENT EARLIER THIS MONTH

More events being planned!

Lloyd and Kathy: Berry Picking! Details to follow .

Jonathan: Shooting Range

Kevin: May - Gameworks and Dinner

Cher: April - Scavenger Hunt and meal (Miatathon!!)

LoAn present to update signature card at bank with Don, Kevin and LoAn as authorized users on club account. Club Phone to be disconnected (LoAn will take care of this). Treasury update : \$3231.10. in Jan. Several checks written tonight so amount will change. LoAn implementing check request form with board approval needed to request money from account.

**Next Board Meeting: March/April details to follow. The SRMC Board Meetings are open to all members of the club.**



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Sun Riders Miata Club of Tampa Bay  
January Treasurer's Report

Balance Forward . . . . .	\$2,991.10
Total Deposit . . . . .	\$ 365.00
Total Expenses . . . . .	\$1,147.02
Balance as of 1/31/02 . . . .	\$2,209.08

Please contact the Club Treasurer if you would like detailed itemizations of any of the above information.

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**The Beginning Of A New Year**

by Doro Anderson

The first monthly meeting of 2002 was held on Tuesday, January 14th at Jimmy Mac's Restaurant in Tampa. If finding a pearl in a fried oyster is any indication of forthcoming prosperity or good luck, then the Sun Riders are, or at least one member is, in for a good year. A turnout of about 30 people, including several new members, provided for a lively group with lots of miata sharing and camaraderie.

After a period of leisurely dining and informal conversation, the newly installed vice president, Don Reese, began the "official business" of the meeting. Highlights included a discussion of the recently formed national Miata Owners Club (MOC) with regard to any possible future affiliation or participation our club might have with this organization.

Sun Riders board member, Jonathan Skinner outlined four possible avenues the Sun Riders might take with regard to involvement in the MOC. They were:

- 1.) The Sun Riders could become an affiliate of the MOC as a club without requiring individual members of our club to become members of the national group. This scenario would possibly require our club to pay an affiliation fee to MOC, and if our individual members want to be MOC members, they would apply for that membership directly to MOC.
- 2.) The Sun Riders could become an affiliate of the MOC whereby Sun Riders membership dues would include any MOC membership dues. In this case, any Sun Riders members would also be MOC members and Sun Riders dues would increase for everyone in our club.
- 3.) The Sun Riders club would not affiliate at all with MOC and remain its own entity, and interested club members could pursue MOC membership individually.
- 4.) Sun Riders members could join the BMW, Porsche, or Corvette national organizations. ;-D

From opinions and feelings expressed during the discussion, several common themes emerged. Overall, members felt that it should be up to the individual to decide if she/he would like to become a member of the national MOC, and therefore Sun Riders dues should not incorporate MOC's membership dues. Also, because the direction of MOC and what an affiliation would require of us, or provide us, is somewhat unclear (as MOC is in its early development), the overwhelming feeling of a decision of whether or not our club should affiliate could not be determined until MOC provides us with more information.

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Additionally at the meeting, Kevin Morrison reported that he has submitted a proposal to the Miata Owners Club and Mazda for sponsorship of a Miata corral at the upcoming 12 Hours of Sebring race, part of the American LeMans Series. If the sponsorship comes through, we'll have our own parking area, RV, and free food for all Miata owners at the race.

Other highlights included information about the Sun Riders successful autocross series. Courtesy Mazda is sponsoring the Sun Riders Autocross Series for 2002. It will be renamed the Courtesy Mazda of Tampa/Sun Riders Autocross Series. they are proving \$1,800.00 to the Club in sponsorship money. We plan to use this sponsorship to build on our existing program, possibly upgrading our timing equipment, and possibly purchasing our own cones. This would allow us to hold autocrosses at other sites, such as Zephyrhills Airport, where the Corvette and Porsche Clubs have recently held several autocrosses, in addition to our events in St. Petersburg.

Other news regarding our autocross series included that Fun Runs for \$1.00 a run (timed, but not official) will be held AFTER the official autocross runs have all been completed. This money will be collected and held for our selected charity, the SPCA of Pinellas.

At the January meeting of Sun Riders board members, it was decided that drawings for this year's charity would include restaurant gift certificates with proceeds benefitting whichever charity the club decides to support this year. You are encouraged to come out to the next monthly meeting on the third Tuesday of every month at Jimmy Mac's restaurant in Tampa. There will be lots of stimulating miata related conversation, and who knows- if you try your luck on an oyster dinner, you may end up with a pearl, or if you donate to our charity, you may end up with another dinner out.

Hope to see you there!



### Tour Of The Arts

A small group of Sun Riders enjoyed a private tour of the Dunedin Fine Arts Museum on Feb 16. The museum's current exhibit is "WHEELS". David Shankweiler, Curator of Exhibitions, was knowledgeable and informative and he stayed after museum hours to give us this private tour. Thanks David! We totally enjoyed the show!



Dunedin Fine Arts Center  
www.dfac.org  
1143 Michigan Blvd  
Dunedin, FL 34698



## Current Calendar of Events

**Tuesday, March 19:** Monthly Meeting - 6:30 PM kick the tires, 7:00 PM dinner and meeting. Meeting location is Jimmy Mac's Restaurant located one block south of Gandy Blvd. in Tampa on Bridge Avenue, just west of Westshore. Look for the big Imperial Marina sign on Gandy.

**Saturday, March 23:** (note change from Sunday) : Courtesy Mazda SunRiders Autocross Series 2002, event number two. Our fifth year running these events! Registration starts at 8:30AM, driver's meeting at 10:00. Registration closes at 9:30. Be there before 9:30 or be a spectator! This is a great way to improve your driving skills in a place where you can't get a ticket and you can't hurt your car. If you are not a member of the SunRiders, you are still welcome to participate. You don't even have to own a Miata, any type of car can come. Cost will be \$25 and that will include a lunch. Spectators can eat lunch with us for \$5. Call Jonathan Skinner at 727-424-9683 for more details. A few helmets will be available for rental for \$5. Beginners are welcome. The event will be held at the St. Petersburg Junior College - Allstate Campus in St. Petersburg, at the Southeastern Public Safety Institute. The Campus is located at 3200 34th Street South, St. Petersburg.

*Directions* from I-275 Southbound: Take Exit #6, which is 22nd Ave. South

*Directions* from I-275 Northbound: Take Exit #5, Head West to 34th Street, take a left at the light onto 34th Street South. (this is also known as US 19) Head South for about a half-mile, SPJC-Allstate Center will be on your left, across from the old Florida Power building (it's something else now).

**Saturday, March 30:** Tech Session - 12:00pm, Cottman Transmission on 9th St., St. Petersburg. We will have the use of the shop, including lifts, for the afternoon. Oil changes, brake jobs, sway bars, lights, horns, and tune-up type stuff is all acceptable. Please don't plan on changing your timing belt or installing a turbocharger! We'll post some directions soon.

**Saturday, April 13:** St. Pete Baywalk - Meet at Sports Authority on corner of 688 and 49th Street at 6pm, walk begins at 7. Afterwards group will meet and go to dinner in downtown St Pete. We will eat at Mid Town Sundries 200 1st Ave S - St. Pete 727-502-0222. Contacts: Kathy Davis - kathy@sunriders.com

**Saturday, May 11:** Tacky Tourist Tour - Meet at Jimmy Mac's (Monthly Meeting location) parking lot at 10:00 am Contacts: Dave and Diane Tietz (dave@sunriders.com)

**Saturday, May 25:** Courtesy Mazda of Tampa/Sunriders Autocross

**Saturday, July 13:** Roaring 20s, Pizza & Pipes - Meet at Tampa Port Authority parking lot at 3:00 pm (time may be adjusted) Contacts: Dave & Dianne Tietz (dave@sunriders.com)

**Saturday, July 20:** Courtesy Mazda Sun Riders Autocross Series. NIGHT AUTOCROSS, 4:00 PM to 11:00 PM - come run under the lights and beat the heat.

New Events coming soon. Stay tuned.

## A note from the editor...

In order to plan and make reservations at some places a head count is necessary. Penalties can occur when quotas are not met. To help coordinate events better, please respond to the event planners to let them know if you plan to attend. Thanks in advance for this courtesy!

Kathy

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## Miscellaneous pics from autocross and Rolex 24...



## Attention Environmentalists!

In the interest of saving trees, who is interested in receiving the newsletter in PDF file format on your computer? If you sign up for this service you will receive the newsletter via internet AS SOON AS IT IS COMPLETE! Faster than snail mail and IT'S IN COLOR!!

To sign up for this feature, just send me an e mail stating :”Sign me Up!” and I will begin delivery next mailing!

### Benefits:

- g Faster delivery
- g Saves paper
- g Saves the editor time (less labeling and stamping!)
- g Saves the club money (for use on fun things!)

### Paper Recycling Facts...

- One tree can filter up to 60 pounds of pollutants from the air each year.
- Recycling one ton of paper saves about 17 trees.
- Each year in America, enough office paper is thrown away to build a wall of paper 12 feet high from California to New York.**-For every ton of paper recycled, three cubic yards of landfill space is saved.
- Public landfills are approximately 36 percent waste paper products.
- One ton of recycled paper saves 3,700 pounds of lumber and 24,000 gallons of water.
- It takes 75,000 trees to print a Sunday Edition of the New York Times.**



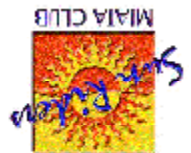
- American's throw away enough office and writing paper annually to build a wall 12 feet high stretching from Los Angeles to New York City.**
- Corrugated boxes are the most recycled paper product, while magazines and books are recycled the least.
- More than one third of all paper and paperboard recovered for recycling in the entire world is from the U.S.
- By recovering 50 percent of paper products from the waste stream, 20 million tons more of paper will be recycled than landfilled.
- Recycling a four-foot stack of paper saves a 40-foot pine tree.**
- Recycling saves 60 percent of the water and 25 - 75 percent of the energy it takes to make paper from trees.

**The New York Times**  
ON THE WEB

FIRST CLASS MAIL

MIATA CLUB

Tampa, FL 33623-6071  
P.O. Box 26071



Join us at our club meetings...

We meet the third Tuesday of each month. Currently our meetings are being held at Jimmy Macs Restaurant, tire kicking starts at 6:30 and the meeting begins at 7:00pm.

For more information visit the web page at:  
[www.sunriders.com](http://www.sunriders.com)

If you received this newsletter and are not a member of our club, please consider this an invitation to join.

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