

# CCSCC Autocross School

## April 5 & 6, 2008

# Rantoul Aviation Center

### **Classroom Instructors:**

Pete Hetman  
Dennis Miller  
Barry Rowe

### **Course Design:**

Russ Bedford

### **School Arrangements:**

Barry Rowe

### **School Founder:**

Pete Hetman

### **Computer / Timing Crew:**

Philip Cheshire  
Jason Kositarut  
Tom Ingles

### **Course Instructors**

Russ Bedford  
Mike Blackwelder  
Barney Carlson  
Chris Goodwin  
Pete Gossett  
Brian Grable  
Carl Huffman  
Tom Ingles  
George Kirkilewski  
James Koltz  
Jason Kositarut  
Branden Lavender  
John Li  
Greg Lukach  
Emanuel Martin  
Dan Marx  
Austin McGuire  
Ross McGuire  
Nick Owens  
Brandy Sandberg  
John Sandberg  
Ryan Sandberg  
Jeff Smucker  
Steve Wright

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### **CCSCC Autocross Job Handouts:** Pages 11-30

To hold autocrosses, lots has to be done. CCSCC has generated descriptions of what each job is, what the person doing it has to do and when he needs to do it. These descriptions prepare you as an entrant to do these jobs. Autocrosses cannot be held without these jobs being done.

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# CCSCC Autocross School Notes

**Date: April 5, 2008**

## **Introductions:**

Instructors: Pete Hetman, Dennis Miller, Barry Rowe  
Each Instructor will tell of their experience

Participants:

How long have you been autocrossing?  
Why are you here?  
What kind of car do you autocross?

## **General comments by Pete, Dennis and Barry**

CCSCC history

CCSCC and SCCA

How can we offer Autocrosses?

Insurance

“Nationally Recognized Rules”

Car Classifications

Stock classes

Street Touring

Street Prepared

Prepared

Street Modified

Modified

Comparing across classes -- the Index.....

Trophies

Auspuff

Worker assignments -- We can't autocross without them. See handouts

Course worker

How to count a cone. (in or out of the box)

What is an off course? (OC --not DNF)

Can someone get back on course?

Where to look when car is on course.

Safety

Photographers and other annoyances we all love

Timing and scoring

Multiple Cars

Using a computer

Posting results

Trophies, winners & reporting results

Starter (the gate keeper)

Safety steward (requires CCSCC or SCCA license)

Registration

Pre-registration

On Time

Results board

Tech inspections

Self-classification

Year Long Tech

Fun Runs

How to volunteer so it helps you run better

Today

Another event

What you need to bring to an event

# CCSCC Autocross School Notes

**Date: April 5, 2008**

Helmets (Snell 95 or newer Rating -- M ok)

Air & Air Gauge -- CCSCC will be providing an air compressor

Be prepared for the weather hot, wet or cold

No Alcoholic beverages, illegal drugs, ever

No firearms

Note book to keep tire pressures and other helpful hints.

## Scoring

Times -- what they mean

Raw score -- Indexed score

Cones -- See Course Driving Diagrams (page 9) for course diagrams

Pointers

Normal

Special (Start / finish, Defined as special)

## Physics of autocrossing: Barry

Two basic laws and 2 definitions of physics we cannot overcome:

### **f=ma**

Acceleration: the more massive the car the more force you need

Deceleration (negative acceleration): Brakes! The more massive ...

Massive cars usually have more force to accelerate (horsepower)

**$F_c = mv^2/r$**  -- centripetal force (m =mass, v=speed, r=radius of turn)

Centripetal force turns you.

More mass -- needs more force

More velocity -- need more force<sup>2</sup> !

Smaller radius -- need more force

Radius of turn you can make is determined by v and m

### **Inertia** --"stay in same state of motion"

Linear: mv

Must overcome inertia to accelerate or decelerate

More mass -- greater inertia

Rotational: related to where the mass is

Mass towards center of car

It turns easily whether you want it to or not -- "twitchy"

Mass at ends of car means it resists changing its turning state

More stable 'feel'

Once it starts turning, it continues turning

Rotational Inertia is not "turning" It is "State of Turning"

If not turning -- it resists turning

If turning -- it resists going straight

### **Center of gravity: (Cg)**

We turn around the center of gravity -- see figure 2

Tires have a slip angle -- See figure 1

Center of gravity ahead of the center of aerodynamic pressure (Ca)

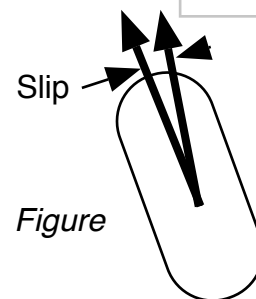
car "blows back into line" and resists spinning -- See figure 3

Center of gravity behind the center of aerodynamic pressure

car is "blown off course" and spins more easily

Plane of tire

Direction Car



Figure

# CCSCC Autocross School Notes

Date: April 5, 2008

## Specific examples:

Front wheel drive:

Cg in front of Ca, so stable

Lots of mass at front end, so resists turning a little (some understeer)  
but cg is near mass, so not a huge amount of understeer

Efficient, so lighter weight

Rear wheel drive but front engine:

Cg towards center -- closer to Ca -- usually ahead of it

Lots of mass at both ends so resists turning (understeer)

Not efficient, so heavier

Rear engine / rear wheel drive

Cg towards back -- often behind Ca (engines are heavy)

Mass is at back, but little in front (once turning doesn't want to stop - oversteer)

Efficient, so lighter weight

Front / mid-engine, rear wheel drive

Cg towards center -- usually ahead of Ca

Mass is centrally located (neutral handling)

Not so Efficient, but balanced

Rear / mid-engine, rear wheel drive

Cg towards center -- usually close to Ca

Mass is centrally located (neutral handling but "twitchy")

Efficient, so lighter weight



Figure 2

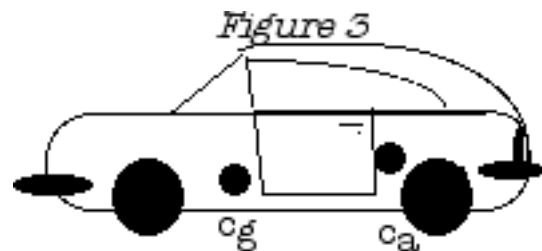


Figure 3

# CCSCC Autocross School Notes

**Date: April 5, 2008**

## Choosing a car to autocross: Dennis

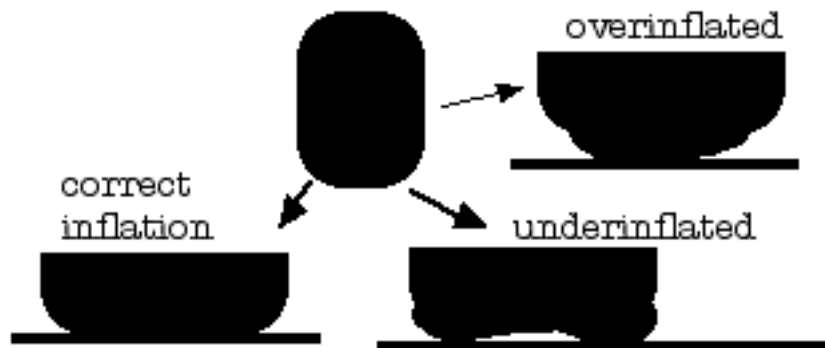
### Uses:

- Family
- Fun
- Rallying also
- Only car
- Only an autocross car
- What do you want to run for?
  - FTD
  - Class win
  - Against yourself

### Car set up

#### Tire pressure

- Reading tires
- Polarized sunglasses
- White shoe polish
- How pressure affects handling
  - More traction -- more tire on ground
  - Oversteer -- get more traction at the rear or less at the front
  - Understeer -- get more traction at the front or less at the rear
  - Balance
- How much pressure?
  - Depends on tires, type of car, type of surface



### Modifications

- What to take out before your run
- Tuning
- The honor system -- and self-classification
- Seat belts
- Alignment
- Numbers and class
  - Readable
  - Unique per car
  - Both sides
  - Year long numbers

# CCSCC Autocross School Notes

**Date: April 5, 2008**

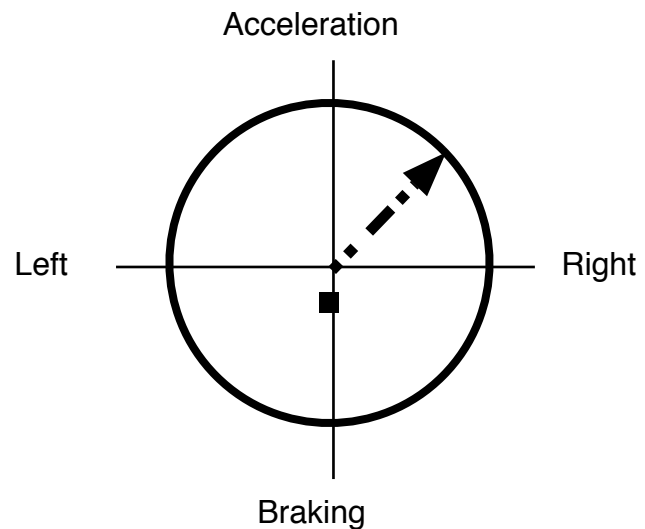
## **Walking the course: Pete**

- What should you be looking for (cones)?
- What are the distances?
- Who to walk with and who to listen to?
- How many times?
- Before you walk observe the course map (If posted ) or make your own

## **Driving instruction**

- What and where you should be looking
- Brake hard
- Slow down to go fast (and other smart-ass comments)
  - Don't look like a police car on TV
  - Don't overdrive
  - Shorten the course
- Smooth
- Traction How it works -- Circle of traction

## **The Circle of Traction.....**



- Driver location (hands & feet)
- Taking off from the starting line
  - Go through the course in your mind while waiting
  - Start in a reasonable time, but when you are ready
  - Look ahead
  - Virtually follow the cars before you through the course
- Shifting
  - How, when, why
  - Upshifting
  - Downshifting
- Cones
  - Pointers
  - Slaloms (distances)
  - Pacing off
  - Imagine where you will be going
  - Getting a "rhythm" going
  - Which side?

# CCSCC Autocross School Notes

**Date: April 5, 2008**

## Corners

### Hairpins

Slow Down

Tricks

Handbrakes

Trailing throttle oversteer

### Sweepers

Smooth

Apexes

Early

Late

Multiple

Smooth (in case we forgot to mention it)

Where do you want to go? Look there

Drive it or slide it? (smooth revisited)

## Gates.

Look ahead and set up for the next one

What if you are going to miss it? (Accept this run will not be a winning run)

Don't back up

Get the pylon

## Finish

STOP

Watch the pylons

You don't win after the lights

Cost of lights....

## Helpful Hints:

Watch those in cars like you

Get where you can see others run (other heat, your heat)

Don't take the event nor yourself too seriously

Get to know an experienced driver who can mentor you

Read your tires after your first run

Adjust tire pressure until the car feels right

Once your run feels good, concentrate on your driving.

Go over your run in your head as soon as you finish. Focus on where you can improve.

Ask your mentor to watch your run BEFORE the run

Ask where you went off course, but don't ask the workers

Have fun and expect to get beat sometimes.

Be a good loser

Be a good winner

Remember -- you are running mostly against yourself.

Are you happy with your run?

## Web Resources:

CCSCC Web Page: <http://www.ccsportscarclub.org>

SCCA Central Illinois Region: <http://www.cir-scca.org/>

SCCA Indianapolis Region: <http://www.indyscca.org/>

Midwest Council of Sports Car Clubs (Chicago Area) Autocrossing Web Site;

<http://www.mcscce.org/>

Solo II Novice Handbook: <http://www.tirerack.com/features/solo2/handbook.htm>

Permitted SCCA Modifications: <http://www.sff.net/people/dburkhead/prepcompare.htm>

# **CCSCC Autocross School Notes**

**Date: April 5, 2008**

## **References**

How to Make Your Car Handle, Fred Puhn, H.P. Books, ISBN 0-912656-46-8, ©1976

Handling, What it is and How to Get It, Roland de Marcellus, Adcco Industries, ©2005

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Secrets of Solo Racing, Expert Techniques for Autocross & Time Trials, Henry A. Watts, Loki Publishing Co., ISBN 0-9620573-1-2, © 1989

Bob Bondurant on High Performance Driving, Bob Bondurant with John Blakemore, Motorbooks International ISBN 0-87938-158-2, © 1982

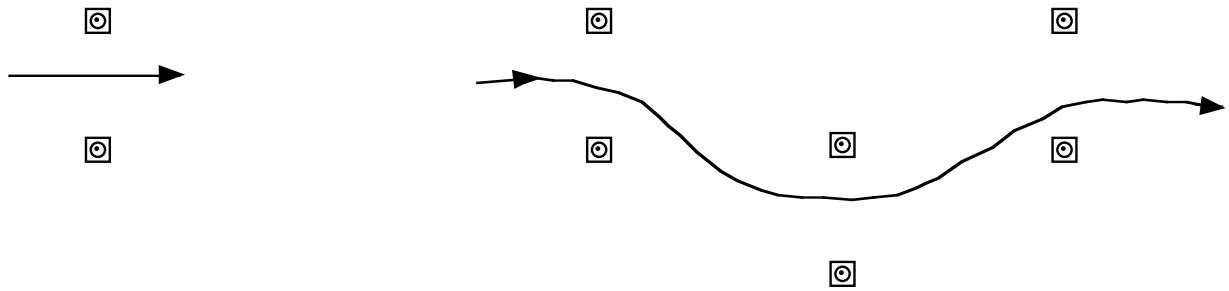
Tune to Win, Carroll Smith, Aero Publishers, Inc., Library of Congress 78-73549, ©1978

# CCSCC Autocross School Notes

Date: April 5, 2008

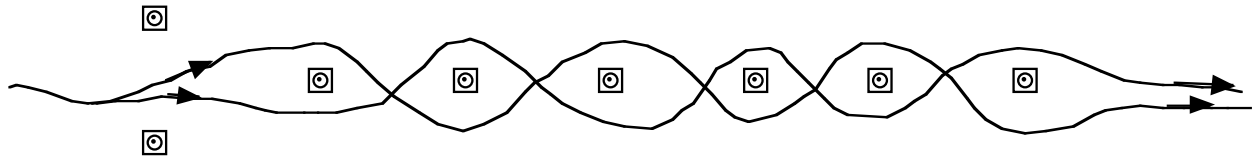
## Course Driving Diagrams

All diagrams show the path from left to right. None of these are drawn to scale!

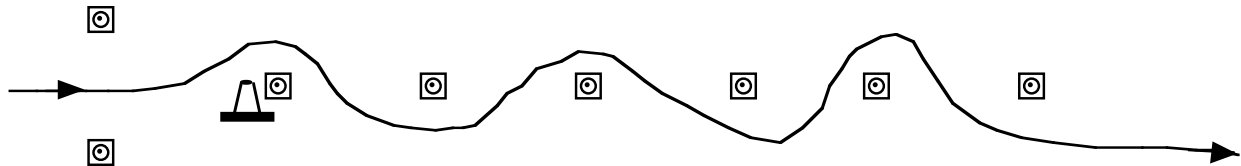


**Gate:** You must go between the cones.

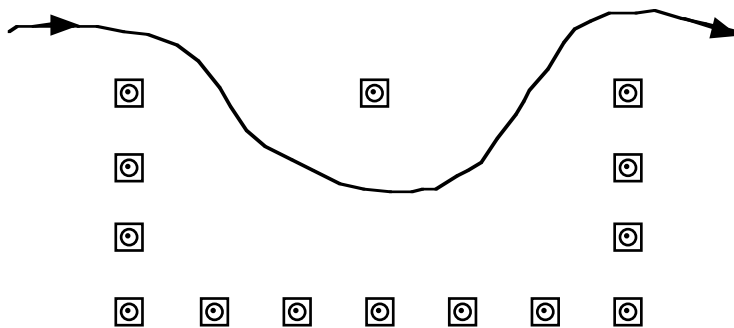
**Offset Gate:** You must go through all three gates



**Slalom:** The driver can enter the slalom on either side of the first cone and then alternates cones



**Slalom with marker cone:** The driver must enter the slalom on the side pointed to by the marker cone and then alternate cones.



**Chicago Box:** It is really a short slalom. Think of it as such.

## **CCSCC Autocross Chair Duties**

### **Information**

The Autocross Chair is one of the CCSCC board members who serves as an autocross board member. The autocross chair will make arrangements for site use for the events early in the year. He will revise the instructional handouts and generate a packet for distribution to the event chairs and SSs. These forms will be filled out by the autocross chair prior to giving them to the event chair. The event chair and SS are assigned ahead of time. The autocross chair performs the following duties:

### **Before the event:**

- Give the event chair the event chair packet. (at least a month before the event)
- Contact the event chair two weeks before the event to offer help and make sure the event chair has
  - Designed the course
  - Arranged for the trailer to be at the site
  - Arranged for a timing car
  - Ordered the trophies (usually T-shirts)
- The autocross chair should contact the SS and give him his assignment sheet.
- The autocross chair should see that the event chair has a key to the site gate and knows where the needed keys are located in the trailer.

### **The day of the event:**

- Get to the event early and help set up the course or find a designee to do so.
- Help the event chair as needed.
- Make sure the event chair opens tech and registration on time.

**During the event:**

- Enjoy the event! Help as needed. The autocross chair does not need to work to get credit for points earned, but should help if needed. He can serve as any event official.
- Collect the event cards, waivers, membership cards, money and the list of workers. If Jim Hamilton (CCSCC Treasurer) is at the autocross, give him the money and membership applications -- otherwise give them to him later.

**After the event:**

- Check the results spreadsheet from the event to make sure the results are correct.
- Forward the results to Jonathan Flora ([Jon@wrightbasement.org](mailto:Jon@wrightbasement.org)) by email for the Auspuff and Philip Cheshire ([pmcmssc@yahoo.com](mailto:pmcmssc@yahoo.com)) for web page posting.
- Give the event cards and electronic results to the vice president as soon as possible.
- Save the waivers and list of workers.

## CCSCC Autocross

Event Chairman: \_\_\_\_\_

**Event Chairman Information** Date: \_\_\_\_\_ Location: \_\_\_\_\_

Safety Steward (Pre-assigned): \_\_\_\_\_

### Pre-event Tasks **CONTACT CCSCC AUTOCROSS CHAIR FOR HELP IF NEEDED:**

- Order Trophies - Minimum 2 weeks before event from Sport Print (Chuck or Ara -- 217-352-3700).
- Acquire Gate Key from Autocross Chairman (Dennis Miller: 217- 367-0132)
- Arrange for Trailer to be at site (Jim Hamilton 217-892-8560)
- Arrange for timing vehicle (Rantoul - Jim Hamilton 217-892-8560)
- Design Course (Rough design on attached map of Rantoul site or make your own for other sites) Use dots for cones and label "S" for start and "F" for finish.

### Day of Event Tasks:

Design and lay out course with help from other workers and check it with the SS.

Make an accurate course map and post it.

With the Tech inspector, decide on classes and bumps and see that the heats are posted on the display board.

Hold the drivers' meeting and read "Things to say to all competitors and guests at all autocross events" at the meeting. Make sure all entrants take the mandatory course walkthrough before the drivers' meeting.

Announce winners and hand out trophies after the event using attached awards information

### Post-event Tasks - (to be completed within 2 weeks)

- Make sure that the waivers, the money, and the event cards are given to the CCSCCC autocross chairman.
- Write up a narrative paragraph or two about the event and email it to the Auspuff editor or mail him a copy.

## CCSCC Autocross

SS: \_\_\_\_\_

## Safety Steward (SS)

Date: \_\_\_\_\_ Location: \_\_\_\_\_

Alternative SSs \_\_\_\_\_

Assistant SSs \_\_\_\_\_

### Your Responsibility as "SS of record":

- Verify the insurance certificate is posted
- Review the course for safety
- Advise the event chair in the running of the event
- Make sure the site boundaries and safe areas are marked, announced and watched
- Make final course inspection prior to the start of the event
- If Karts are running, arrange for a Kart Steward and discuss with him Kart safety
- Meet with course workers and explain their jobs, stressing safety
- Make sure the waiver station is set up and manned
- Wear something that identifies you as SS as provided by CCSCC
- During the time he is running, appoint either an alternative, licensed SS or an assistant SS (unlicensed) who will bring to the attention of the SS any safety questions
- Stay at the site during runs. Appoint an assistant if necessary to leave temporarily. If called away permanently, find a replacement.
- If there is a safety related problem:
  - Ask the event chair to halt the event until the problem is fixed. The event chair is required to halt the event when asked to by the SS. The event chair and SS should work together on solving any safety problems.
  - Announce to the entrants that the event is suspended temporarily.
  - If the SS's concern cannot be fixed or the event chair doesn't cooperate:
    - 1.Call a meeting of all CCSCC autocross committee members and CCSCC board members present to discuss the problem. At this point, the SS and CCSCC autocross committee members / board members can still restart the event if the concerns of the SS are remedied. The SS has final say. After this point, the event is no longer restartable.
    - 2.Announce the event is cancelled over the intercom and see that the course is torn down and the trailer packed up Write a report about the problem for CCSCC board action. All entry fees will be refunded.
  - At any time during this process, the autocross / board committee can replace the SS with another licensed SS. However, this should be done only when there is some problem that is not safety related and the event chair will be replaced at the same time.

**Hints:**

No CCSCC event has ever been cancelled due to a safety related problem that the event chair refused to remedy. The key to working with event chairs as SS is to confer with them in a pleasant yet forceful manner. Talk to them and work out problems, but don't let safety violations or concerns continue. You are responsible for the safety of all participants or spectators.

It is a good idea for the SS to make sure the workers know their duties. The starter should be observed and supervised at the beginning of each heat to help him know when to let cars start their run. The timing crew also should be talked to. The starter is under control of the timing crew and the SS. It is good to state in no uncertain words that the starter only listens to the timing crew and the SS. This is a safety issue.

Use the handout to meet with the corner workers so they know what to do

Make sure the event chair places experienced workers where they will do the important jobs. Corner workers, starter and timing crew need experience. Sending an experienced crew member to each corner is very important. Grid, helmet, waiver, spotter, crowd control and results board workers don't need as much experience.

All photographers must be accompanied by a spotter to pull them out of harms way.

## CCSCC Autocross

## Bumps and Classes using AXWare

CCSCC events are self-classing. The entrant should choose the class they are in. The registration workers, the tech inspection team and the event chair should help the entrant make this decision. The event chair has final say over classification if there is a disagreement. CCSCC uses "Nationally recognized classes".

### After Tech Inspection closes:

The tech chair and the event chair need to determine classes and bumps. This must be done before the drivers' meeting. The basic rule is that there must, in most cases, be two cars in a class. More would be better. If a class has only a single car, it should be bumped to the next higher class by the following a consistent bumping order. This must be done very quickly -- meet with the event chair immediately after tech closes and the computer person has entered all the data.

The event chair has the option of bumping outside this bump order.

#### STOCK CATEGORY

HS ⇒ GS ⇒ DS ⇒ ES ⇒ CS ⇒ BS ⇒ AS ⇒ SS ⇒ To correct Street Prepared  
STS ↑ FS ↑ class for bumped car.

#### STREET TOURING CATEGORY

STS ⇒ STS2 ⇒ STX ⇒ STU ⇒ To correct Street Prepared  
class for bumped car.

#### STREET PREPARED CATEGORY

ESP ⇒ BSP ⇒ ASP ⇒ To correct Prepared class for each bumped car.  
FSP ⇒ DSP ⇒ CSP ⇒ ASP To correct Prepared class for each bumped car.  
STX ↑

#### PREPARED CATEGORY

CP ⇒ BP ⇒ ⇒ ↓  
DP ⇒ EP ⇒ ⇒ XP ⇒ To DM or EM, whichever is correct for bumped car.  
↑ GP FP ↑

#### MODIFIED CATEGORY

EM ⇒ DM ⇒ CM ⇒ BM ⇒ AM  
↑ ↑  
FM F125

#### STREET MODIFIED CATEGORY

SM ⇒ SM2 ⇒ XP

The bumping order should be followed because of points as well as fairness. Bumped classes are scored on the differential, which theoretically makes bumped classes fair. However, if a class would be bumped a long way in the order it is appropriate to have a one car class. This decision is the event chair's to make.

Ladies class should be bumped together.

Novice classes should be bumped together to form classes by the same order, except bumped classes should be around 5 cars or more. We are limited by the number of trophies we order (about 18 1st place plus FTD, FTDi, and FTDis -- 21 classes).

Name all bumped classes like "B1" etc. Record them along with what classes are in them on the back of the event chair's card, along with how many cars are in each class.

The computer should be used for bumps. Each bump is done manually and the bumped car is shown in the class on the screen as being "in that class", but the scoring is done by index if classes are bumped into a class.

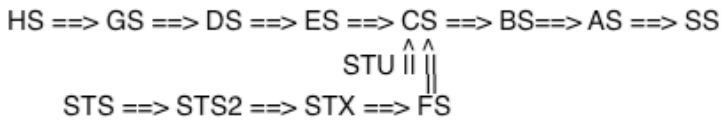
**After Classes are determined**

After the classes have been determined, the heats need to be determined. AXWare will choose the heats for you very quickly. You should run the AXWare process to determine heats and then check that the event chair is in the heat he wants and entrant requests are honored. You can manually change heats after AXWare has determined them. You should balance heats as much as possible.

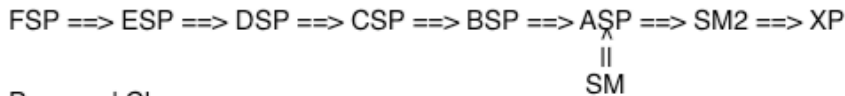
At the drivers' meeting the event chair should announce the bumps and the heats. Heat workers should be reminded to immediately report to the timing vehicle for work assignments and those running the first heat should get their cars in line immediately.

**Barry's Revised Bumped Order**  
Based upon PAX index (2008)

Stock Classes:



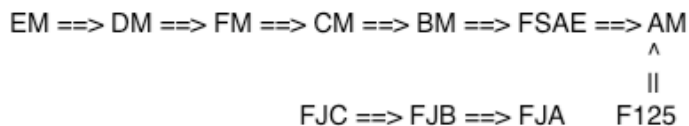
Street Prepared Classes:



Prepared Classes:



Modified and Kart Classes:



## CCSCC Autocross

## Event Workers

The Safety Steward (SS) assigns workers. They should be assigned according to need. Experienced course workers are needed at each corner station, as starter and in the timing vehicle.

Each course worker **MUST** sign the worker sign-in sheet or they will not get a trophy nor points for the CCSCC championship. Anyone who serves as SS **MUST** be listed in the worker sign-in sheet

The Event Chair and SS cannot perform any other duty. The Tech inspector, the Registrar and others who helped set up the course are excused from working if there are enough workers.

<b>Assigned positions</b>	<b>Duties</b>
Timing	Two experienced, trained workers are needed to run the timer, announce times, put scores into the computer and on the log sheet, and keep order in the timing vehicle. A third worker, if available can be a spotter for cones.
Starter	An experienced starter is needed to send off entrants at the correct time and hold entrants when needed. They also communicate information about each entrant to the timing car and results board.
Course Workers	Each work station needs two to 5 workers. At least one must be experienced. They replace cones, call entrants off course and red flag (halt) entrants. They need to be able to use the radio, run to replace cones and one must hold the unfurled red flag in readiness to be waved but not distracting entrants. No one wearing a red shirt can be assigned to a corner.
Waiver	This person is positioned with the waiver and has each person entering the event without wristbands to sign the waiver or leave
Grid	Two people needed to keep the cars in line and moving in the same order to the start. They should also check for seatbelt usage and helmet usage, inspect each vehicle for window stickers for registration and tech inspection, and that readable numbers and class information is on both side of the car.
Results	Two people are needed to write the results on the chalkboard
Helmets	If there are enough workers, this person should make sure the loaner helmets are returned to the front of the grid after each run
Crowd Control	If there are lots of guests this is needed to keep them in safe places
Spotter	If there are enough workers, one can be assigned to spot for a photographer. The photographer can go out on the course to take pictures. The spotter watches to see the photographer doesn't get in the way of the cars.

# CCSCC Autocross Workers

Everyone who works an autocross must sign in. Entrants whose names are not on this sheet may not receive trophies nor points for this autocross. The SS should fill in all lines below:

Date: \_\_\_\_\_ Heat: \_\_\_ Event Chair: \_\_\_\_\_ SS: \_\_\_\_\_

Job	
Additional SSs	
Course Layout	
Registration	
Tech Inspection	
Starter	
Timing	
Grid	
Ride along	
Helmet	
Corner 1	
Corner 2	
Corner 3	
Corner 4	
Waivers	

## **CCSCC Autocross**

## **Registration Information**

Register no one who doesn't have a wristband showing! They should sign the waiver at the gate to the event first.

**There are two lines at registration -- pre-registration and on-site registration**

### **Pre-Registration:**

Since the entrant has already pre-registered, the entrant needs to:

Check in

Show a valid Drivers' license

Get a registration window sticker

If they have year long tech get a tech window sticker, otherwise report to tech to get it

### **On-Site Registration**

**Have the entrants do the following in this order:**

Show a valid Driver's license. If they do not have one, have them see the event chair.

Fill out the entry card COMPLETELY (including address unless they are regulars) and LEGIBLY. If they don't check the CCSCC member box or list SCCA or Heart of Illinois as clubs they belong to, they must pay the full price to compete unless they are a student. They can pay the student entry fee by showing a student ID. Without the CCSCC box checked they will not get points for this event in the club autocross championship

Assign them a number. They may run any number that is not taken already. Keep the number list up to date; adding any numbers to the list that people are assigned. If they want those numbers on a permanent basis, mark the list appropriately. ALL NUMBERS MUST BE UNIQUE!!! This is very important.

If all 4 of the entrant's tires have a wear rating of 140 or above they may compete for FTDis -- that is the fastest indexed time with street tires. Ask them if they qualify. If they don't know, have them ask the tech inspector.

Pay the proper fee

Get their information input into the computer

Go to Tech Inspection unless they have a year-long tech inspection card.

### **You should:**

Collect all cards

Smile and be friendly. Welcome everyone!

Mark entrants' cards paid when you have received the funds.

Keep track of the money (do not leave it unattended)

### **When registration closes**

Give the money, computer and cards to the event chair or his designee **IMMEDIATELY!!!**.

### **Minor information:**

#### **If a minor wants to run in the event:**

We must have a minor waiver (in the waiver box) signed by a parent.

You can give a waiver to the minor entrant to have it signed by a parent before the next event if they wish. It must be witnessed by an adult known to CCSCC or checked upon by the adult. The minor may not run in the event during this day.

Give a copy of the approved waiver to the minor and they can show it at future events and be allowed to run.

File all waivers in the waiver box with the other minor waivers. You and future registration chairs can check the waivers in the box for entrants who don't have a card.

Please be understanding about a minor running. Stress we want them to be able to run, but our insurance requires us to take these precautions.

#### **If a minor wants to spectate:**

If a minor is present to watch without parents, point out safe places where they can observe the event that are not on the site. They need a minor waiver to spectate inside the site.

### **Joining CCSCC**

If someone wishes to join the Champaign County Sports Car Club, have them fill out the CCSCC membership application card (in the registration materials ) completely and take their money. Fill out and give them a signed membership card (they are in the money pouch), Give the membership application cards to the event chairman to be forwarded on to the mailing list chair and the treasurer.

Point out that every time they run an autocross they **MUST** check the CCSCC membership box to pay the reduced entrance fee and to get points for the championship.

## CCSCC Autocross

## Scoring and Timing Information

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Crews: Heat 1: \_\_\_\_\_

Heat 2: \_\_\_\_\_

### Before the Heat:

Turn on the timing displays

Check to see the radios are working

Get a list of bumps/heats from the event chair

DO NOT take the registration cards to the grid to get them in order!!!

### In the Timing Vehicle:

Check to see that the timer is working correctly

There are two jobs:

announce/record times on paper (Paper Trail)

Check the time input into the computer by the timer

Listen to the radio communications:

From the starter get:

car number

class

name

From the course workers get:

cones

Off course calls

Signal the starter when to start or hold entrants

Pick the entrant at the start line for each entrant during the first run to be timed. Make sure the next car to be timed in the computer is the car at the start line ready to run.

Record cones hit by the entrants as "+X" on the run log and put them into the column in the computer

Record times on the run log and check to make sure the times recorded by the computer are correct. Correct them if they are not.

Announce times to the entrants and spectators

If an entrant goes off course, announce where (Corner 1, etc) as soon as they are called off course. Also announce where they went off course with the raw time and record where and the raw time on the run log

Record where the cones were hit by corner on the run log

There are no "DNF" calls. They are either "OC" (off course) or "DNR" (did not run)

In case of problems, hold the start and page the event chair or SS (safety issues)

If you need another person to help communications, ask the event chair to find one to help.

### **Between Heats:**

Announce the break and how long it will be

Turn off the timing displays to preserve the battery life

Check to see that the following information is correct between the run log and the computer data: This is called a "Cone Audit"

times

cones

OCs

DNRs

From the cards, make sure the following is correct in the computer:

Car number

Name

Class (raw class -- doesn't contain any "L"s or "N"s)

time

If you have time, print a running order list of the heat results and post on the trailer.

### **After the last Heat:**

Do the "Between Heats:" computer tasks

Print the results

Give all prints to the event chair.

Announce that for fun runs to begin you need \_\_ (put in a number here -- usually a starter and 1 person for each corner station) volunteers

Announce that fun runs are \$1 a run, for registered cars and registered drivers, and passengers may be carried as long as they have signed the waiver, are belted in and are wearing a correctly fitted helmet.

Another event official will help with fun runs.

### **During Fun Runs:**

There are no people stationed in the timing vehicle and people taking fun runs should record their own times. They do not count for the event, but are just "for fun"

## **CCSCC Autocross      Scoring & Trophies By Computer Information**

Scoring should be done by the event chair. Classes and bumps are already determined before the event and should not be changed. If a late entrant arrives (and is allowed to compete), there should be no changes in the classes and bumps even if classes and bumps would have been different if he had arrived on time.

### **To Score :**

The computer should have all entrants with all their information input by the timing crew or at registration. They should print you a running order list (to be posted on the timing trailer) with both heats on it. They should give you a printout of the results by group, which is the order of finish in class (groups are classes, including bumped classes), a printout of fastest times ( for FTD), a printout of indexed times (for FTDi).

FTD is given to the driver, regardless of class, who has the fastest time of the day. The FTD award takes the place of the first place award in the class of the FTD winner. Therefore, announce that class last.

FTDi is given to the driver who has the lowest indexed time. The FTDi award takes the place of the first place award in the class of the FTDi winner. Therefore, announce that class just before the FTD winner's class.

FTDis is given to the driver on street tires (all his tires must have a tread wear rating of 140 or better) who has the fastest indexed time. He gets this award instead of his first in class trophy if he won that. Only 1 trophy to anyone!

Sort the trophies by class. A 1, 2 or 3 car class gets 1 trophy (to first only), a 6 car class gets 2 trophies (to first and second), and a 9 car class gets 3 trophies (first, second, third). If there are extra trophies, the event chair, at his discretion, may award them as he sees fit.

If someone hasn't worked the event, they get no trophy. Mark "NO TROPHY" on the printout. If someone is absent at the trophy presentation they don't get a trophy -- it should be given to the next person in line unless arrangements have been made for someone to pick it up for the winner.

Shutdown the computer and give it to the Autocross chair or see that it gets to the autocross chair quickly.

## **CCSCC Autocross      Technical and Safety Inspection Information**

### **DRIVER & COMPARTMENT**

Check for driver's wristband  
Helmet (SNELL 95 or newer or current CCSCC or SCCA sticker)  
Apply CCSCC sticker to left side of helmet if not already present  
Brake Pedal 3 strokes (**must not go to the floor**)  
Steering wheel (**loose or play in the wheel?**)  
Seat belt attachment  
Check for loose items in the interior (must be removed)  
Make sure drivers' floor mat is removed if it is not fastened down

### **ALL WHEELS**

Check tires (no cords showing)  
Wheel (all lug nuts & studs present)  
Steering (grab front wheel at front/back & wiggle -- **should be little or no play**)  
Suspension (grab wheel at top & wiggle -- **should be little or no play**)  
Check tread wear rating on all wheels and if all 4 are 140 or larger, inform the entrant he is eligible to compete for FTDIs. Mark card as such

### **ENGINE COMPARTMENT**

Battery (strongly held down or unable to move)  
Positive terminal covered  
Master brake cylinder (check fluid visually from outside -- if not visible, have owner open it and show you the level)  
Throttle return spring (does throttle return easily and completely?)  
Check for leaks (look under car)  
Hood latch (emergency latch operative?)

### **TRUNK**

Spare tire (safely tied down or removed)  
No loose items  
Nitrous oxide is not allowed. If a nitrous bottle is present, it must be disconnected and secured within the car. The owner cannot run another event if the bottle is still in the car at that event. It must be removed, but he can run today. He cannot remove it today, however.

### **Classification**

Driver self-classifies car -- If you think he is in the wrong class, show him the SCCA rule book. If there is conflict on class placement, ask the entrant to talk to the event chair. Act as a resource to the entrant for classification. Ask questions to see what modification have been made. Use classification sheet if needed. Use classification information in the notebook

After tech closes, meet with the event chair to help figure out bumps and heats. Use attached class / bump information

Make sure each car has visible numbers and class letters on both sides of car.

## **Things to say to all competitors and guests at all autocross events**

Has everyone signed the waiver? If not do it now. If you see anyone without an arm-band, point them towards the waiver station.

Restrooms are \_\_\_\_ Nearest food is \_\_\_\_ Spectator locations are \_\_\_\_.

If you notice what you think might be an unsafe condition, report it to the safety stewards who are \_\_\_\_\_, and \_\_\_\_\_.

No drugs, alcohol or firearms allowed

Parents are responsible for their children's safety. Children under 12 and pets are not allowed in the grid, start-finish area or course areas except when supervised by their parents. Pets must be on a leash.

Weather related precautions: drink plenty of water, use sunscreen, tie down your stuff if it is windy. We will suspend the event in case of lightning.

If you have to jack up your car use jackstands and do that only in the pits.

No "lighting up" the tires in the grid or warming up tires. The speed in the pits, grid, and anywhere on site (define site) other than the course are walking speed. Smoking is not allowed on the grid nor on the course.

If you hit the cones at the start or finish that run will not count. If you hit the timing lights and damage them you will have to pay for them. You will be disqualified for the day, and all previous runs will not count. You will not get a refund.

The cone penalty is 2 seconds if it is knocked out of the box or knocked over. ( show demonstration)

Every one will get at least \_\_ runs We will have \_\_heats. When we change heats please do so as efficiently as we can. The sooner we change over the sooner we get done and then we may have more runs.

These people will be in the first heat (read names) and these are the class bumps\_\_\_\_.

Please line up in the same order for all your runs. This makes it easier on the people timing and makes the event go faster.

If you are red flagged stop and then proceed at a reduced speed and safely exit the course. Do not run over the timing cords. Go through the lights. You will get a rerun if

you are red flagged for someone else's error. If you are red flagged for something involving your car you will lose that run.

If while on the course someone runs in front of you, stop and you will get a rerun. Also if you see a cone down while on the course stop and point it out and you will get a rerun. If you don't stop you will not get a rerun.

If you spin out, put brake and clutch pedals to the floor and get your car gathered back up before you continue. The run is lost anyway. Use it to practice, but be safe. Wild, uncontrolled runs could cost us the use of the site and could cause you to be ejected from the event.

If you are using a club loaner helmet you MUST return it to the trailer area as soon as you park your car on the grid. If you are using your own helmet (preferred) it must have a Snell rating from 1995 or later. At each event, please show your helmet and get a sticker for it at tech inspection. If you get in line to run wearing an unapproved helmet or no helmet, you will be removed from the start line and you will lose that run.

Everyone is expected to work the event. You are to check in at the timing vehicle before your work run starts. Get there quickly so we can get the event started. If you do not work you will not get a trophy if you have earned one. When working the course you will have to run to put pylons in place. We will try to run a car every 20 to 25 seconds. If you can't get all the cones set use your radio to hold the start and red flag others on the course.

A single passenger is allowed provided he/she: is no younger than twelve (12) years old; is in a vehicle which has passed tech inspection; is wearing a properly fitted seat belt and a properly fitted helmet; he/ she (or parent/guardian, as appropriate) has completed and signed the required participant waiver(s).

If we have time we will have fun runs. Fun runs are \$1.00 each with a registered car and registered driver. You may carry as many passengers as there are seatbelts in your car during fun runs. All people in the car must be belted in and wear helmets.

If you leave early we will not save your trophy unless you make prior arrangements or have someone pick it up for you.

Please pick up all your garbage and put it into garbage bags we have provided. (tell them where garbage bags are located) we want to leave this site in as good a shape as we found it or better.

Last but not least, when leaving please drive sensibly as this reflects on the whole club and may affect if we get this site in the future. We have notified the police and they will be watching for exuberant driving and you will be ticketed.

Now good luck to everyone and lets have a safe fun day.

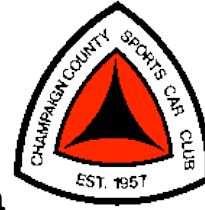
## **CCSCC Year Long Tech Inspection Directions**

At an autocross tech inspection any car that passes is eligible for year long tech inspection. Please ask each entrant if he wants to participate in this program. If they do:

2. Give them the form to fill out.
3. File the form in the folder provided in the tech inspection box
4. Fill out a "CCSCC Year Long Tech Inspection" card and give it to the entrant
5. Inform the entrant that they only have to show the card at registration and their registration card will be accepted without tech inspection. However, they must agree to a re-inspection if they make any change to inspected items during the year; and they can be inspected at any time if an autocross official deems it necessary.
6. Remind them that if they run tires that have a treadwear rating of 140 or greater they are eligible for the FTDis trophy at any autocross. Inspect the tires and note if they are eligible on their Year-Long Tech Inspection card and the year long tech form filled out by them.
7. Record any inspection comments and the number of inspections on the form. Number of inspections is how many inspections someone is required to have due to changes in the car (owner requested inspection) and inspections requested by the event officials (due to concerns or random checks).



## 2008 CCSCC Year-Long Tech Inspection



Each year CCSCC holds autocrosses and inspects each car for safety. There are specific requirements that are checked at each tech inspection. You may have your car inspected at the first event you run in the competition year and if you fill out this form, you will not normally have to be inspected again during the competition year unless you make changes to the car, are picked for random checking, or your car exhibits problems that event officials want checked. You may always request a tech inspection if you wish to have one.

Remember, this will make your registration process faster, but you are still required to meet all the technical inspection requirements at each event and to seek a new tech inspection if you make modifications to any of the specific requirements. By signing this form you agree to these requirements. You will get a list if items with this form to keep that summarize tech inspection safety requirements. It is your responsibility to make sure your car always meets these requirements.

You will get a card showing you have passed inspection to show at registration. This page will remain on file in the tech inspection folder.

Name: \_\_\_\_\_ Car Description: \_\_\_\_\_

Date Inspected: \_\_\_\_\_ Competition Year: \_\_\_\_\_

Tech inspector: \_\_\_\_\_ FTDsi eligible? \_\_\_\_

Number of other Inspections: \_\_\_\_

Comments:

## **Early Arrival to Help Set Up the Event Program**

CCSCC, in 2008, is instituting a program to entice entrants to arrive early at the event to help setup the event. If you:

- Arrive before 8 am at the site
- Are ready to help work the site at 8 am
- Are a CCSCC member

you qualify. You will get a card with 4 symbols on it. Each time you qualify as an “Early Arrival”, your card will be punched and when you get 4 punches on your card, at your next event your entry fee will be waived.

We appreciate your help and want to show it. At the event the event chair and SS will assign you duties.

Thanks for helping CCSCC hold our events.