

2024 CCSCC Safety Steward Guide



Safety Steward Guide March 2024

Safety Chair – Brian Catt



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Introduction:

This begins your qualifications to be a Safety Steward for Champaign County Sports Car Club (CCSCC) autocross events. A class will be offered at the CCSCC autocross school, and any additional times as needed. The class will rely upon the backgrounds of the instructors to cover much of the material. To complete your certification, you will need to be an Assistance Safety Steward for 2 events (days).

The SCCA defines the Solo autocross event as “any event in which one automobile at a time is timed over a clearly defined course with elapsed time and appropriate penalties for course deviations being the determining factor for awards. This shall not preclude the running of more than one car at a time provided they are separated on course by adequate time and distance to eliminate any possibility of a passing situation.” And further goes on to say, “an Event is a non-speed driving skill contest such as, but not limited to, autocrosses and slaloms. These events are run on short courses that emphasize the driver’s ability and the car’s handling and agility. Competition licenses are not required and hazards to spectators, participants, and property do not exceed those encountered in normal, legal highway driving..... While the right to protest in proper cases is undoubted, it should be remembered that Solo® events are sporting events to be conducted in a sporting spirit, that all events are organized and managed by amateurs who cheerfully give their time and do their best, that the competitor may expect some imperfections of the organizers and of [peer] competitors, and that, to a reasonable extent, these things are part of the chances [they] take[s] in entering the competition.”

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The Safety Steward of Record (SSoR) is the certified Safety Steward assigned by the Safety Chair or Assistant Safety Chair to supervise and be responsible for the safety of an event. The Safety Chair/Assistant Safety Chair assigns all Safety Stewards of Record. The SSoR can then work with the Chief of Workers to assign the Safety Steward for the opposite heat/s for the event.

CCSCC has never cancelled an event due to a safety related issue that the Event Chair refused to remedy. The key to working with Event Chairs as SSoR is to discuss any perceived issues 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 and spectators. You are essentially working for our insurance company during the event.

The key to a successful SSoR is to be able to work with the Event Chair and others. There is no substitute for good people skills. There is no reason for an event to turn into a disagreement between the SSoR and the Event Chair. But the SSoR must make sure that the event is safe....as the SSoR always has the final say.

Sometimes the Safety Steward or SSoR is approached by a well-meaning entrant who is concerned about the safety of the event. It is important that the Safety Steward/SSoR listens carefully to any safety concern and carefully considers the issue. If it is a legitimate safety concern, it must be corrected. This will likely require a modification to the course and may require a test drive/run of at least that section of the course. If participants have already walked the course, the course change must be announced, and adequate time allowed for participants to walk at least that section of the course.

If it is not clearly a safety concern, get advice from other Safety Stewards, Event Chair, other experienced drivers, etc. If you determine that it is not a safety concern, the course should not be changed if it will impact the event. If the entrant insists that it is a safety concern and demands that it be changed, offer them a refund, in accordance with the club's refund policy.

Additionally, try to be the "in-between person" between the well-meaning entrant and the Event Chair. The Event Chair is busy with many things the day of the event and many of these course issues can be resolved by the Safety Steward.

How to become a CCSCC Safety Steward:

1. Take this course.
2. Work 2 events as the "Safety Steward in training".
3. Get certified after the 2nd event.

Or to continue as a Safety Steward:

4. Take this course every 3 years to maintain your certification with CCSCC.

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5. Be a Safety Steward or Safety Steward of Record for 2 events per year.

Once you are certified as a CCSCC Safety Steward, you are always a Safety Steward. If you notice a problem, it is your duty to discuss it with the Safety Steward of Record. You are **never NOT** a Safety Steward. If there are enough workers and you are not needed for another position, volunteer to help as a Safety Steward. For example: you can walk around the grid and pits checking to make sure it is safe or tend to general safety of any spectators.

How to get a Safety Steward or Safety Steward of Record Assignment:

The Safety Chair assigns Safety Stewards of Record. Volunteer with the Safety Chair. As part of the training and certification process you must work as Assistant Safety Steward for at least two events before you are a stand-alone Safety Steward or Safety Steward of Record. Previous experience as Safety Steward or Solo Safety Steward may qualify you, if you have taken this course. The decision of the Safety Chair is final. Keep in mind that each day will need 2 people in Safety Steward positions. During training, the Assistant Safety Steward will be assigned to a certified Safety Steward to complete the training requirements.

In addition to the SSoR, an additional Safety Steward is needed so the SSoR can participate in the event. This person is the Safety Steward during the heat the Safety Steward of Record is driving. This position is the "Assistant Safety Steward". It is currently required that the Assistant Safety Steward be certified from the Safety Steward Training Class. The Safety Steward of Record selects the Assistant Safety Steward. If there is no certified Safety Steward available, an uncertified or previously certified CCSCC club member can be named to serve as "Acting Safety Steward".

The Acting Safety Steward's only responsibility is to monitor the event while the Safety Steward of Record is driving and consult with the Safety Steward to discuss a safety issue. The "Acting Safety Steward" can stop the event (and should) for a safety concern until the Safety Steward can be briefed and make a decision. Uncertified club members should not be used unless absolutely necessary and then the Safety Steward of Record should select a CCSCC autocross committee member, a CCSCC Board Member, or an experienced CCSCC autocross entrant to be "Acting Safety Steward".

Duties of the Safety Steward and Safety Steward of Record (SSoR):

- 1) Review the course for safety.
- 2) Review the site as it relates to the course for safety.

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- 3) Ensure that drivers and passengers are wearing seatbelts and helmets on course.
- 4) Ensure that all participants and non-participants have a waiver bracelet and it **MUST** be worn at all times.
- 5) Understand the Safety Steward is responsible for both participant and non-participants' safety during the event.
- 6) Advise the Event Chair in the running of the event. Remember the Safety Steward's primary role is safety at the event.
- 7) Make sure the site boundaries and safe areas are clearly marked, announced, and monitored.
- 8) Meet with course workers and explain their jobs, stressing safety. Chat with the Corner Captain about their responsibilities to oversee the safety of the corner workers. If there are inexperienced corner workers, the Corner Captain should mentor them.
- 9) Wear something in orange that identifies you as Safety Steward, such as a vest and/or hat. Corner workers will be in high-vis yellow-green vests.
- 10) The SSoR should appoint an Assistant Safety Steward to be Safety Steward while they are driving. This needs to be done in cooperation with the Chief of Workers during the worker assignment process.
- 11) Stay at the site during the entire event. Appoint an Acting Safety Steward if necessary to leave temporarily. If called away permanently, find a replacement. The Safety Chair shall approve the replacement. When the last car finishes its last run, your job is **NOT** done. "Fun Runs" are included in the Safety Steward's job for the day.
- 12) Make sure that if someone is working on their car at the event and needs to get under it, they do so only in the pits (or static grid) and use jack stands.
- 13) The SSoR works with the Event Chair to make sure the event is safe. To do that, the SSoR should be involved in looking at the course right after it is set up, but **SHALL NOT HELP LAY OUT THE COURSE**. The SSoR must not become the course designer. They need to remain neutral and evaluate the course for safety, not style, not philosophy, and not become "invested" in the course. In the rare case that the Event Chair is having difficulty laying out the course and time is an issue; the SSoR should find an experienced auto

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crosser who has been Event Chair to help get the course designed and ready to run. The SSoR should **NEVER** assist in the design.

- 14) The SSoR should drive the course at least once “at speed” in a car other than their own. The Event Chair should be the passenger, then the course can be approved. If major changes are made, another drive through the course at speed is needed. Note: try to find a “faster” car to test various points of the course that would cause concern with a high powered vehicle.
- 15) The SSoR has the responsibility to rule on the safety of the course. If the course is approved, the Event Chair should “set the course”. At that point, no changes will be made to the course unless the SSoR is consulted and approves. At this point, the Event Chair should arrange to get the course marked, **a map made**, and should announce that the course is open to walking.
- 16) The SSoR should place the corner worker stations in safe places on the course and put extra cones, a red flag, and a fire extinguisher at each corner station.
- 17) The SSoR should work with the Event Chair and/or Chief of Workers to assign workers for the heat they are working. The SSoR and/or Chief of Workers should explain the jobs to the workers before sending them to their positions. Some worker positions must be assigned to experienced workers.
- 18) The special worker positions include: Corner Captains, Timing & Scoring, Starter, Waivers, and Grid Captain. The SSoR and/or Chief of Workers should assign the workers for the second heat during the first heat by circulating on the grid to tell everyone their assignments.
- 19) The SSoR, or their designee runs the Drivers’ Meeting and reads the “Drivers’ Meeting Notes”. The SSoR should be prepared to answer questions about the event.
- 20) The SSoR should work with the Event Chair, working together in a cooperative and collaborative way to create a safe course design. But the SSoR does have the final say on the course design and any other safety questions.
- 21) The Starter should be observed and supervised at the beginning of each heat to help timing of when to let cars start their run. Talk to the Timing crew and discuss who directs the heat activities. The Starter is directed by the Timing crew and the Safety Steward. It is good to state in no uncertain words that the Starter only listens to the Timing crew and the Safety Steward.

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- 22) Take a tour of the corners after the first run has completed. Give the Corner Captain feedback on their corner's performance and talk with any new workers.
- 23) Ensure that any photographers inside the event perimeter are accompanied by an experienced driver to act as a dedicated spotter to keep them out of harm's way.

How to Check a Course for Safety

There are 3- parts to making sure a course is safe. First, the general layout rules for courses. Second, you should always consider novice drivers when evaluating a course for safety. Third, look over Roger Johnson's course design document.

Generally, we don't want any hazards on or around the course to exceed those encountered in legal highway travel. Simply put, there should be nothing around for a driver to hit if they lose control of their vehicle.

1. Courses must be tight enough so that cars run the entire course in their lower gears. Speeds on straight stretches should not normally exceed mid-60's mph for the fastest Street and Street Touring category cars. The fastest portions of the course shall be those most remote from spectators and property. Tight turns should not normally allow speeds in excess of 45 mph in **unprepared** cars. More importantly, there must be sufficient runoff room for any turn.
2. The course shall normally be on a paved surface which contains no dangerous holes, loose gravel, gratings, oily spots, or other hazards. Dips, crowns, etc. which could cause a car to become airborne should be avoided.
3. The course boundary should not pass closer than 25 feet from solid objects. Note that neither a curb nor grass is a solid object, but the course should NEVER head directly towards a curb nor grass within 25 feet, nor should it have a turn within 25 feet of a curb or grass while heading towards the curb or grass.
4. The Safety Steward of Record shall have the authority to disapprove a course or site for karts only, when there are upright solid objects (e.g., light poles, fence posts, etc) on the site within 50 ft. of the actual course. This does not include curbs. It is up to the judgment of the SSoR whether the course design, surface, solid objects, and type of karts running present an unsafe mix. In some cases, the situation can be resolved by a course design change. CCSCC will sometimes not allow karts even if the event is missing the hazards listed above for various safety related reasons.
5. A long straight (over 150 ft.) should not terminate in an extremely sharp turn.

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6. The inner and outer limits of turns and corners should be marked by cones; displacement of which results in time penalties. Corner limits must never be marked by curbs, buildings, poles, trees, soft shoulders, or other hazards likely to cause damage to a car or likely to cause a car to overturn. It has become practice to have pointer cones on the inside cone of a turn or corner.
7. Cars on the course simultaneously shall not run in close proximity to each other. This almost always excludes crossovers unless they are very carefully designed. Special precautions must be taken if the Event Chair's course has a crossover in it. Extra course worker stations may be needed. It is usually best not to cross over the course if possible.
8. Each portion of the course shall be visible to at least one corner worker who can communicate through signals or by electronic means with the Timing crew.
9. It is very important to consider the location of the start, finish, staging, and timing areas. The timers and staging area must be placed well clear of the course in a safe area.
10. The finish section and course exit should be clearly and carefully defined to safely restrict speeds. Competing cars should NOT be required to come to a complete stop immediately following the finish line. Instead they should be required to slow to a walking speed before returning to the grid or pits. Sufficient distance past the finish cone/line must be available to safely slow or halt any competing car from the highest possible speed attainable at the finish without locking brakes or wild maneuvering. Historically we look for 150+ feet length of "finish chute" and have some "open space" after the chute for mechanical failures to have room to stop.
11. Portions of the course where significant braking is necessary shall not terminate at a point where participants, non-participants, or obstacles are directly in front at a distance closer than that required to bring a car to a halt even with brake problems, a stuck throttle, etc.
12. Participants and non-participants must be kept at a safe distance from the course, particularly at the outside of turns and at the start and finish lines. The minimum viewing distance of 75 ft. from the course edge in unprotected areas must be maintained.
13. Appropriate fire extinguishers, flags, and radios need to be available at each corner and Corner Captain. Material for cleaning up fluid spills must be available.
14. All corners shall be negotiable without reversing by any car participating in the event.

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15. The course lane shall be at least 15 feet wide and slalom markers shall be at least 45 feet apart (about 18 paces). The 45 feet also includes the 3 cones that “define” a Chicago-box or any other series of cones that create a slalom.
16. An autocross event shall be a test of driving skill, not memory.
17. The course shall be well marked with cones. The base of each cone shall be outlined to permit accurate replacement if hit.
18. Cars should leave a gate headed generally in the direction of the next gate.
19. Tricky or confusing courses are a safety hazard and should not be designed/approved. CCSCC runs multiple cars on the course at the same time, the course should not be so confusing that someone might get lost or that cars could approach each other and collide or interfere with the safety of the event.
20. Use as few cones to delineate the course as possible.
21. Sometimes an Event Chair has a “cute” or “trick” idea about the course. Talk them out of using it. The entrants will hate it and it will be confusing, especially new drivers. If they get lost they are not safe.
22. The course should mostly be made up of well delineated gates, offsets, slaloms, sweeping curves, and short straightaways. They should not be so tight that there is no ‘flow’ to the course.

If there is a safety related problem:

1. Ask the Event Chair to halt the event until the problem is resolved. The Event Chair is required to halt the event when asked to by the SSoR. The Event Chair and SSoR should work together on solving any safety problems.
2. Announce to the entrants that the event is suspended temporarily.
3. If the SSoR’s concern cannot be fixed or the Event Chair doesn’t cooperate:
 - a. Call a meeting of all CCSCC autocross committee members and CCSCC board members present to discuss the problem. At this point, the SSoR and CCSCC autocross committee members / board members can still restart the event if the concerns of the SSoR are remedied. The SSoR has final say. After this point, the SSoR is not agreeable, the event is no longer restartable.

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- b. Announce the event is cancelled over the PA and see that the course is torn down and all equipment is packed up and secured. Write a report about the problem for CCSCC board action. All entry fees will be refunded.
4. At any time during this process, the autocross / board committee can replace the SSoR with another certified Safety Steward. However, this should be done only when there is some problem that is not safety related. In addition, the board will replace the Event Chair at the same time.

===== Drivers' Meeting verbiage =====

CALL TO ATTENTION

Hello and welcome to the event, I'd like everyone's attention during the drivers' meeting. This may take about 10 minutes. We need to tell you important safety information, site logistics, and things to make the event run smoothly and safely. This is new information, you have not heard this before. So shut up, pay attention and lets get through this. Any new drivers? Come up to the front please....

INTRODUCE SAFETY STEWARDS

Our safety stewards today are: _____, and _____. Let them know if you see an unsafe condition.

WAIVERS

Has everyone signed the waiver? If not, do it right after this meeting. If you see anyone without a wristband, point them toward the waiver station. [indicate location]

RANTOUL

New Site, New logistics

- There is a row of cones to the south of the entrance road separating us from the runway. That line extends the length of the property.
- These cones can not be crossed for any reason, it is an active airport beyond the cones.
- There are also Barrels on the northwest and southwest limits of the runway. These also can not be crossed for any reason.
- Indicate locations of: Waiver Station, Porta Potties, Trash Bags, Pit, Grid, Starting Line, Finish Line, Corners
- Spectators Locations: Spectators without a waiver are on grass behind the fence. Spectators with a waiver can not go beyond the grid.
- 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 should be on a leash. Please make sure your pet has shelter and water during the event.

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NO SMOKING

Smoking or vaping is ONLY allowed in the Pit Area. You may not smoke or vape on course, not in grid, not in the toilets,

- Not on a train, Not in a tree,
- Not in a car! Smokers! Listen to me!
- You would not, could not, in a box.
- You would not, could not, with a fox.
- You will not smoke them here or there.
- You will not smoke them anywhere.
- You will not smoke cigarettes or vape.

TRASH

If you brought it...take it home with you.

Please pick up all your garbage and put it into the bags 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.

WEATHER

- Drink plenty of water, Use sunscreen, Tie down your stuff if it is windy... and it's always windy.
- We will suspend the event in case of lightning.
- We will not re-start the event until at least 30 minutes after the last lightning strike is observed.

DRIVE AT A WALKING SPEED

The speed in the pits and grid is walking speed. Walking speed is single digit speed. The timed course is the only area where you may exceed walking speed.

JACK STANDS

If you have to put any part of your body under your car you must use jack stands and do that only in the pits unless it is a fixed grid. This is a zero-tolerance policy.

"Who has jack stands?"

===== COURSE INFO =====

GRID

- No "lighting up" the tires in the grid or warming up tires.
- Please line up in the same order for all your runs. Make note of who's in front of you. This makes it easier on the timing crew. A grid worker will tell you when it's your turn to drive. Please pay attention so you are in your car and ready when they come for you.

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- Working/repairing your car in the grid is only possible in a fixed grid. If the grid is moving you must take it to the Pits.

RE-RUN

If while on the course someone runs in front of you, stop and you will get a re-run. If you see a cone down while on the course, stop and point it out. You will get a re-run. If you don't stop, no re-run, and the cone will probably be called on you.

RED FLAGGED

If you are red flagged, stop and then proceed at a reduced speed and safely complete the course. A reduced speed is with purpose but 100% certain you will not hit any further cones or lose control of the car. 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. All red flags are FULL COURSE. Corner captains MUST pay attention and wave their flag if any other corner flag is being waved.

[GET THE PROP CONE AND BOX TO DEMONSTRATE PENALTIES]

CONES

- The cone penalty is 2 seconds if it is knocked out of the box or knocked over.
- 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 pay for them. You will be disqualified for the day, and all previous runs will not count. You will not get a refund.

WORKING EVENT

Everyone is expected to work the event. You are to check in at the timing vehicle before your work heat starts and grab a yellow vest. Get there quickly, so we can get the event started. When working the course, you must run to put cones 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 all cars on the course. When you are working the course, you must not be using a cell phone or other device.

Never turn your back to a car on course. You may need to turn as cars are approaching but never lose sight of a car in your vicinity.

Corner Captains – grab a radio, hold the flag, and know where the extinguisher is. Report to heat safety steward before going to your corner.

NO TROPHY

If you do not work, you will not get a trophy, even if you have earned one. If you leave early we will not save your trophy unless you make prior arrangements or have someone pick it up for you.

HEAT CHANGE

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When we change heats please do so as efficiently as we can. The sooner we change over; the sooner we get to trophies. If live worker changes are used you must never turn your back to cars on course.

===== DRIVING THE EVENT =====

- **HELMETS** – No helmet, no run, helmet needs a 2024 tech sticker.
- If you are using a club loaner helmet, you **MUST** return it to the front of the grid as soon as the heat ends.
- If you are using your own helmet, it must have a Snell 2010 rating or later. (Current rating and previous 2, SA2020 / M2020, SA2015 / M2015, SA2010 / M2010)
- If you get to the start line wearing an unapproved helmet or no helmet, you will be sent back to grid and lose that run.

SPIN OUT -- 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. Use it to practice but be safe. Uncontrolled runs could cost us the use of the site and could cause you to be ejected from the event.

PASSENGERS -- During a timed run, a single passenger is allowed provided they: are at least 12 years old or at least 57" tall; are in a vehicle which has passed tech inspection; are wearing a properly fitted seat belt and a properly fitted helmet; have completed and signed the required participant waiver. Passengers cannot have hand-held camera, phone, etc. Also, they must keep their hands and arms inside the vehicle or the driver will be disqualified for that run.

LUNCH

- Lunch will be announced as the 1st heat progresses. Be prompt so we can get the afternoon going on time.
- Please, when leaving, 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.

FUN RUNS

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 installed in your car during fun runs. All people in the car must be belted in and wear helmets.

Our Next Autocross Event is: [Choose the next event]

March 23 & 24 2) April 6 & 7 3) April 13 & 14 4) May 18 & 19

5) June 8 6) July 13 7) August 17 8) September 14 & 15

9) October 19 & 20 10) November 9 & 10

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Club meetings are on the 1st Wednesday of the month, at Torro Loco in Urbana at 7pm.













Are there any questions about these rules or what to expect or what is expected of you?

GOOD LUCK to everyone and let's have a safe fun day.

===== End of Drivers' Meeting verbiage =====

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Helmet Stickers Allowed this year:

SNELL SA2020 	SNELL M2020D M2020R 
SNELL SA2015 	SNELL M2015 
SNELL SA2010 SAH2010 	SNELL M2010 
SNELL EA2016 	FIA 8859-2020 8860-2018 8860-2018-ABP 8859-2015 8860-2010 
SNELL K2020 	
SNELL K2015 	SFI 31.1/2020 31.1/2015 31.1/2010 41.1/2020 41.1/2015 41.1/2010 
SNELL K2010 	

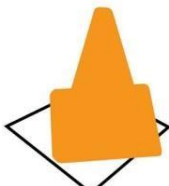
Cone Penalties:

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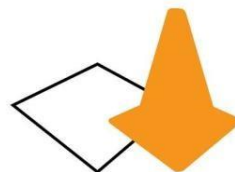
 is the cone still good?



yes



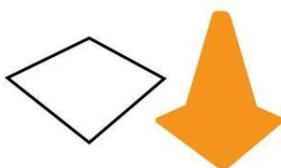
yup



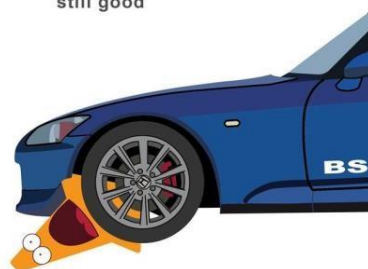
still good



no

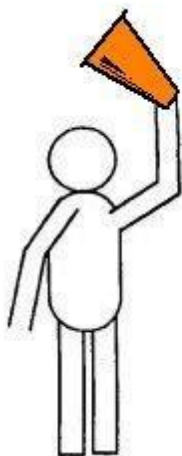


nope

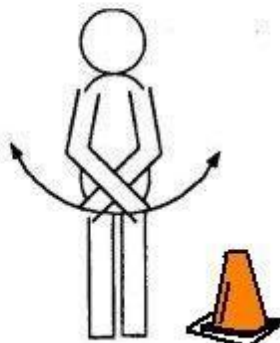


probably not

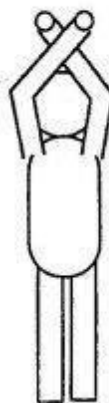
Corner Workers Signs:



Cone penalty.
Hold the cone
up for the
Corner Captain
to see and
report



No penalty. Make
the "safe" sign.
Cone may have
been brushed,
but stays within
the box. Be sure
Corner Captain



A DNF. Make
an "X" with
your upraised
arms. Ensure
the Corner
Captain sees
the signal.



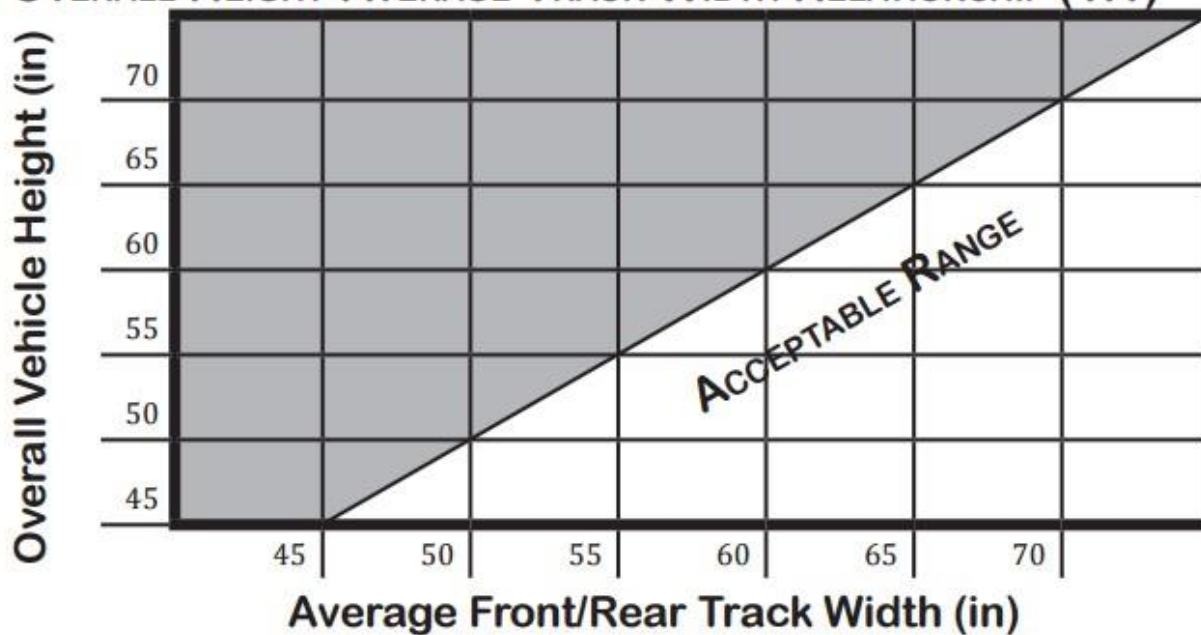
If you need to
"red flag" a car,
wave the flag
vigorously to
get the driver's
attention.

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CORNERING SPEEDS IN MILES PER HOUR (MPH)

		Turn Radius (ft)										
		20	30	40	50	60	70	80	90	100	125	150
Lateral g	0.90	15	20	23	26	28	31	33	35	37	41	45
	0.95	17	21	24	27	29	32	35	37	38	42	46
	1.00	17	21	24	27	29	32	35	37	39	43	47
	1.05	18	22	26	29	31	34	36	38	40	44	49
	1.10	18	22	26	29	31	34	36	38	41	45	50
	1.15	19	22	26	29	32	35	37	39	41	46	51
	1.20	19	23	27	30	33	35	38	40	42	47	52
	1.25	19	23	27	31	34	36	39	41	43	48	53
	1.30	20	24	28	31	34	38	40	43	45	50	55
	1.35	20	25	28	32	35	38	40	43	45	50	55

OVERALL HEIGHT-AVERAGE TRACK WIDTH RELATIONSHIP (1:1)



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References:

2024 SCCA Solo Cars and Rules: <https://www.scca.com/pages/solo-cars-and-rules>

SCCA Solo FAQ: <http://scca.growsites.net/downloads/3752-solo-faq/download>
<https://www.scca.com/pages/autocross-faq>

Unofficial Solo Car Classifier:
<https://www.scca-classifier.com/a/index.html>

2016 SCCA Houston Solo Course Design by Roger Johnson:
[https://dk1xgl0d43mu1.cloudfront.net/user_files/scca/downloads/000/013/038/Convention -
_2016_Solo_Course_Design.pdf?1454611724](https://dk1xgl0d43mu1.cloudfront.net/user_files/scca/downloads/000/013/038/Convention_-_2016_Solo_Course_Design.pdf?1454611724)

Course Design sites:

- 1) Jim Rowland's design highlights - <https://medium.com/@JimRowland/solo-coursedesign-highlights-931167d681fd#.ghdfh2f5u>
- 2) Mike's Course Design - <http://mikes-autoxcoursedesignschool.freesevers.com/lessons.html>
- 3) Google Search with some neat course design ideas -
[https://www.google.com/search?q=autocross+course+design&num=50&sa=X&espv=2&
biw=1571&bih=883&tbm=isch&tbo=u&source=univ&ved=0ahUKEwjcsNW8iovSAhWmh
FQKHdCrBakQsAQIMQ#imgrc=](https://www.google.com/search?q=autocross+course+design&num=50&sa=X&espv=2&biw=1571&bih=883&tbm=isch&tbo=u&source=univ&ved=0ahUKEwjcsNW8iovSAhWmhFQKHdCrBakQsAQIMQ#imgrc=)

Safety Information in SCCA Rule Book:

- Section 1.4, Page 19, 2024 Rule Book
- Appendix E, Page 285, 2024 Rule Book

Course Design Information in SCCA Rule Book: Section 2, Page 29, 2024 Rule Book

Tech Inspection Requirements in SCCA Rule Book: Section 3.3.3, Page 37, 2024 Rule Book

Classic American Muscle (CAM) Rules & Xtreme Street (XS) Rules -

[https://cdn.connectsites.net/user_files/scca/downloads/000/070/320/2024 CAM and Xtreme
Rules changes formated.pdf?1701372422](https://cdn.connectsites.net/user_files/scca/downloads/000/070/320/2024_CAM_and_Xtreme_Rules_changes_formated.pdf?1701372422)

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Inspection Requirements, 2024 SCCA Rule Book, Pg 37, Section 3.3.3

All vehicles must pass safety (tech) inspection on the following points prior to competing. Entry fees, if already paid, will be refunded if a car fails to pass safety inspection. Safety inspection is not concerned with the legality of a car.

The organizing Region may at its discretion provide an advisory inspection for vehicle classification and legality, in connection with technical inspection.

Cars legally entered in and inspected for categories Street, Street Touring, Street Prepared, or Street Modified may compete in the Prepared and/or Modified class(es) for which they are eligible without meeting the additional safety requirements listed in 17.12 or 18.0.E provided:

- They are fully compliant with Section 17 or 18 (Example: it is not permitted to run a winged SM car in EM, because non-OE wings are not allowed in EM) as applicable.
- No allowances from Sections 17 or 18 are utilized.

Similarly, cars legally entered in and inspected for the Prepared category may compete in the Modified class(es) for which they are eligible without meeting the additional safety requirements of 18.0.E provided they are compliant with Section 18 and no allowances from Section 18 are utilized.

A. Annual Inspection (optional)

An Annual Safety Inspection for a calendar year may be available for vehicles presented for inspection by an SCCA® member. When a vehicle has completed the requirements for an Annual Safety Inspection, an official Annual Tech card will be issued to allow Registration or other designated event officials to verify Annual Tech prior to the start of competition. An official Region SCCA® Annual Tech sticker shall be placed on the vehicle in a location that will be visible to the starter when the vehicle approaches the start line for a competitive run. If the Annual Tech sticker has been removed, the card may be used to obtain a replacement. Alternatively, individual event tech stickers can be issued when the Annual Tech card is presented rather than the issuance of an Annual Tech sticker. The Annual Tech should be honored for all SCCA® sanctioned Solo® events in that Region. The following conditions apply to all Regional implementations of Annual Tech:

1. Regions have the option of placing additional restrictions on the Annual Tech process, such as limiting the classes allowed and/or restricting it to experienced drivers.
2. The Annual Tech inspection must be conducted by an experienced inspector appointed by the Regional Solo® chairperson. It is strongly recommended the Region Tech Inspector appoint and train an adequate number of assistants.
3. The vehicle should be presented for Annual Tech in the same condition in which it will compete.
4. It is the responsibility of all competitors in a vehicle with an Annual Tech approval to verify that all items in Section 3.3.3 are in compliance.

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5. The event technical inspector or chairperson may require a vehicle be presented for a re-inspection if there is good reason to believe that a vehicle is not in compliance with Section 3.3.3.

6. A vehicle must be re-inspected if modifications are made to the car after receiving an Annual Tech approval.

An official SCCA® Annual Tech sticker may be affixed to helmets meeting the current standards in order to easily identify eligible helmets.

B. Inspection Requirements

1. All loose items, inside and outside the car, must be removed. Hand held items, such as but not limited to, cameras and cell phones are considered loose items.
2. Pedal operation must not be impeded. Driver's side floor mat must be removed unless securely mounted. OE fasteners designed to prevent the mat from moving forward satisfy this requirement if they are in good working order.
3. Passenger's seat back and all cushions, bolsters, headrests, etc. must be secured. All allowed aftermarket replacement seats (i.e., driver and passenger) must be securely and safely mounted. Special care should be taken when using other than OE mounting points and/or fabricated bracketry.
4. Any cameras, if installed, must be securely mounted to withstand loads from driving maneuvers. The camera may be installed either inside or on the outside of the car. In either case, its mounting method and position must not interfere with driving or pose an additional hazard to driver, passenger, or course workers.
5. Snap-on hubcaps, detachable fender skirts, and trim rings must be removed.
6. Wheels must be safely affixed. They shall not be reversed so that the lughole taper does not mate with the chamfer of the lugs. All studs and lug nuts must be present and functional.
7. Tires must be in good condition, with no cord or belts showing or cracks in the tread or sidewall. Each tire must have measurable (i.e., exhibiting positive measurement values) tread depth at no less than two points on the tire which are 180° apart around the circumference, and which are within the center one-half of the tread surface that normally contacts the ground. Tires may not have cord visible at the start of competition.
8. Seat belts (and harnesses if used) must be properly installed with attaching hardware, in good condition, secure, tight, and in compliance with Section 3.3.1.
9. Throttle return action shall be safe and positive.

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10. No excessive fuel, oil, water, or brake fluid leaks should be observed. For all Prepared and Modified category vehicles, engine crankcase vents and radiator overflow/breather lines must terminate in containers of at least one quart capacity. These containers cannot be vented into the driver/passenger compartment. Crankcase, oiling system, breather, or catch tank evacuation systems that are in any way connected to the exhaust system are prohibited. Vent tanks are not required with systems which are completely closed (i.e., have no venting to the atmosphere). All oil lines passing through the driver/passenger compartment shall be made of metal braided hose or equivalent (e.g., Nomex, Kevlar, or nylon-braided hose) with AN Series threaded couplings or entirely covered and protected with a metal cover (this does not apply to the small oil lines used for mechanical oiling system gauges).
11. Steering “spinner” knobs shall not be permitted.
12. No broken or missing spokes or more than one loose spoke per wheel shall be permitted in wire wheels. No cracks shall be permitted in disc or cast wheels. Other than standard parts as defined by these rules, non-metallic wheel construction is prohibited (FSAE cars are exempt from this requirement since the FSAE rules allow non-metallic wheels).
13. Brakes must have an adequate pedal, sufficient fluid in the master cylinder, and no apparent hydraulic leaks under pressure. Vehicles must have a brake mechanism acting upon each wheel. The braking system shall be a dual system, arranged in a manner to provide braking for at least two wheels in the event of failure in part of the system. In the case of OE single systems, this requirement may be satisfied by a functional, redundant emergency brake. Karts are exempt from this requirement.
14. All swing axle cars, except Porsche, must have a camber compensator, have negative camber on the rear wheels, or have axle-limiting straps. Standard pre-1967 Volkswagen straps are not sufficient.
15. Wheel bearings, shocks, steering, and suspension shall be in good operating condition.
16. Exhaust must exit behind the driver or exit to the side of the car.
17. On-board starters shall be provided.
18. All batteries (on-board power supplies) shall be attached securely to the frame or chassis structure, independent of any container or cover that may be present. Any wetcell battery moved from the manufacturer’s original location shall be in a non-conductive, marine-type container or equivalent and the “hot” terminal shall be insulated. NOTE: This will allow the use of gel cell or dry cell (AGM) batteries without a non-conductive, marinetype container where applicable.

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19. Roll bars, if installed, must meet the applicable portions of Section 3.3.2 and Appendix C with specific attention to roll bar height.
20. Helmets for all occupants of the vehicle are to be inspected for condition, fit, and compliance with Section 4.3.1, Driver's Safety Equipment, Helmets.
21. Flex fans are not allowed.
22. Alcohol may not be used in manifold injection or spray bottles unless it is specified for this use by the OEM.
23. For cars competing on non-DOT-approved tires, the vehicle safety requirements as referenced in each category rule set, in addition to those in Mandatory Sections of the Solo® Rules, shall be adhered to by all entrants.
24. A vehicle must meet the requirements of Section 3.3.2 as they apply to all categories in which it is entered.
25. For all karts, chain guards are required on engines.
26. For all karts, a "brake safety cable" or redundant brake pedal connection is required.
27. For those categories which permit fuel cells and/or fuel tank modification or replacement, the following requirements apply if the fuel tank/cell does not fit within the same area as the OE tank.
 - a. No part of the fuel tank or fuel cell shall be closer than 6.0" (15.24 cm) to the ground unless enclosed within the bodywork and mounted above the floor pan. A metal bulkhead is required that provides total separation between the driver compartment and the compartment containing the fuel tank/cell and/or filler neck. This includes fuel tanks/cells that are flush mounted with driver compartment panels or otherwise exposed to the driver compartment. Fuel filler doors in the driver compartment must be positively fastened (non-metallic fasteners are not allowed). For the purposes of these rules, a fuel tank consisting of a structure containing a fuel bladder is considered to be the entire fuel cell including the containing structure. The containing structure of a fuel cell does not qualify as a bulkhead. A separate metal bulkhead must isolate the fuel cell from the passenger compartment.
 - b. Internal body panels may be modified to accommodate the installation of the fuel tank/cell as long as such modifications serve no other purpose. In the event installation includes encroachment into the driver's compartment, a metal bulkhead shall prevent exposure of the driver to the fuel tank/cell.

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c. Fuel tank/cell breathers shall not vent into the driver/passenger compartment.


Vehicle Operating Condition, 2024 SCCA Rule Book, Page 41, Section 3.3.4

Any car that is judged by the Event Chairman to be in an unsafe operating condition at any time during the event shall be barred from further competition until the deficiency is corrected to the satisfaction of the Chief Technical Inspector.

Mufflers, 2024 SCCA Rule Book, Page 41, Section 3.5

Adequate mufflers are required for Solo® events. The criterion of “adequacy” is not what the exhaust system consists of, but the sound level. Any car deemed by the Event Chairman or his designated representative to be excessively loud shall not compete without acceptable modifications installed on the car.

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2024 CCSCC Tech Inspection Checklist		Class	
Exterior		Interior	
	No play in the wheel bearings (Grab tires and wiggle them hard)		Floor mats and all other loose items removed from car
	Wheels are tight and have no visible cracks		Brake, throttle, and clutch (if applicable) pedals secure
	Hubcaps or center caps removed or firmly secured by lug nuts (if applicable)		Firm brake pedal
	Tires must be in good condition with no cords/belts showing or cracks.		No excessive play in the steering
	Tire tread depth (as appropriate)		No excessive play in gear selector
	Brake pads/rotors in good condition		Seat in functional order
	No loose body panels.		Seat Belt proper for year of car and class
	Numbers on & clearly visible on body (no blue tape on a blue car & not window)		Cameras, phones, and other gear mounted to car
Under the Hood and Trunk		Notes	
	Battery and connections secure		
	Air intake or air box secure		
	Throttle cable secure (if applicable)		
	All fluid caps secure		
	No <i>major</i> leaks apparent		
	Trunk is empty of items that move around		
	Functional exhaust system that's not excessively loud and exits behind driver		
	Helmet inspected and passed	Novice Driver? Y / N	
		Vehicle Year:	
		Vehicle Make:	
Date of Inspection: ____ / ____ / ____		Vehicle Model:	
Annual Tech: Y / N		Vehicle Class:	
CCSCC Tech Inspector Name or Initials:		Vehicle Owner Name/Signature:	
 <p><i>If aluminum lug nuts or spacers are used, suggest to the owner that the minimum thread engagement be 7-10 rotations for closed lug nuts or the stud should protrude if open lug nuts are used</i></p>		As the driver/owner, I take full responsibility for this car's condition and usage at this event.	

2024 Tech Check for Annual

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Notes