

SAE Go-Kart and Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Table of Contents

Table of Contents.....	0
Table of Contents.....	0
Formula EV Testing Plan.....	2
Event Details.....	2
Event Description.....	2
Event Itinerary.....	2
Event Participants.....	2
Event Purpose.....	4
Roles & Responsibilities.....	4
Emergency Contacts.....	4
Approval Checklist.....	4
Vehicle Specifications.....	5
Logistics & Course.....	6
Equipment & Supplies Checklist.....	7
Safety Equipment (Required).....	7
Driver Equipment.....	7
Track Operation Equipment (As needed).....	7
Consumables.....	7
Maintenance Equipment.....	7
Miscellaneous Equipment.....	7
Vehicle Technical Inspection.....	8
Driveday Procedures — Prior to Event.....	8
Driveday Procedures — Driver's Safety Meeting.....	9
Driveday Procedures — Vehicle Operation.....	9
• Accelerator.....	9
• Brake.....	9
• Steering.....	9
• E-Stop.....	9
• Restraint Harness.....	9
• Energize Sequence.....	10
• Driver Display Information.....	10
• Driver Feel.....	10
Driveday Procedures — Risk and Response.....	11
• Vehicle-Object Interaction.....	11
• Vehicle-Human Interaction.....	11
• Fires.....	11
• Severe Weather.....	11
• Health Emergency (including electric shock).....	11
• Mechanical Failure.....	11
• If You Cannot Stop (or freeze).....	12
Driveday Procedures — Spectator Rules.....	13

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Safety Guidelines — General.....	13
Safety Guidelines — Preventative Measures.....	13
Safety Guidelines — General Incident Response.....	13
Driveday Procedures — Track Operation.....	14
Command & Informational Flags.....	14
Drivers Line & Race Gear.....	14
Driving Instruction – Operation and Egress Practice.....	15
Driving Instruction – Driver Warmups (basic autocross).....	15
Driving Instruction – Acceleration/Brake Test.....	15
Driving Instruction – Skidpad Test.....	15
Driving Instruction – Rain Test.....	15
Driving Instruction – Autocross.....	16
Track Laps.....	16
Flagging.....	16
Starting Procedure.....	16
Track Recap.....	16
Driving Instruction – Endurance.....	16
Driver Error.....	16
Track Map.....	18

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Formula EV Testing Plan

Event Details

Event Location: 4400 Vestal Pkwy E, Binghamton, NY 13902, Parking lots M3 and M4

Event Date: 9/28/2025, 10/11/2025, 10/12/2025, 10/25/2025, 11/2/2025, 11/8/2025, 11/15/2026, 11/16/2025

Event Location Utilization Time: 10:00AM-6:00PM

Event Director(s)

- Vansh Joishar | 607-304-1157 | vjoisha1@binghamton.edu

Safety Attendants:

- Matthew Vecchio | 631-624-7072 | mvecchi2@binghamton.edu
- Additional Attendants TBD

Evacuation Meeting Point: Hinman Dining Hall

Event Description

- This event shall serve as a training and testing day for the Binghamton Motorsports FSAE Electric Vehicle. Drivers and members will be familiarized with the interface and safety features. The vehicle will be put through a number of static and dynamics tests similar to that of competition. The goal is to accumulate running hours, observe the functionality of electrical and mechanical systems in real world conditions, practice charging procedures (if available), familiarize drivers with the 'feel' of the vehicle as well as competition processes and expectations.
- The courses shall be closed with a single track, taking the span of lots M3/M4 (see map)

Event Itinerary

Activity	Time
Track Set Up & Equipment	8:00 AM - 9:00 AM
Mechanical Tech Inspect (inside EB) (includes egress test & weight)	9:00 AM - 10:00 AM
Electrical Tech Inspect (inside EB) (includes charging battery practice)	10:00 AM - 11:00 AM
Brunch	11:00 AM - 12:00 PM
Design Critique (Fab)	12:00 PM - 12:30 PM
Cost Presentation (E2, T1 or 110)	12:30 PM - 1:00 PM
Escort to M-Lot	1:00 PM - 1:30 PM
Drivers Safety Briefing	1:30 PM - 2:30 PM
Vehicle Warmup and Diagnostics	2:30 PM - 3:00 PM
Brake Test / Acceleration Test / Skid Pad	3:00 PM - 4:00 PM
Short Autocross Circuit (comp drivers)	4:30 PM - 5:00 PM
Endurance Test (remaining battery)	5:00 PM - 5:30 PM
Cleanup	5:30 PM - 6:00 PM (Additional Time for Delays)

Event Participants

- Participation is limited to students who are members of the Binghamton Motorsports Formula or affiliated entities. The competition drivers sub group shall take priority in operating the vehicle.
- Participants must register (with name, phone and email) for the day on-site
- Participants shall be made aware of the risks associated with this event at the safety briefing
- Spectators must also sign in if they wish to stand in the designated spectator area
- A driver's license **is required** to operate either vehicle. All drivers MUST attend the safety briefing, which includes information on vehicle operation for drivers and a course walkthrough.

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

- Participants must wear long pants, closed-toed shoes, and clothing that appropriately reflects the weather to reduce the risk of hypothermia or heat exhaustion. Participants may be turned away for not wearing appropriate clothing at the discretion of the event director

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Event Purpose

The event shall serve the following purposes:

1. Educational — to familiarize drivers with the 'feel' of the vehicle as well as competition processes and expectations
2. Educational — to accumulate running hours, observe the functionality of electrical and mechanical systems in real world conditions, practice charging procedures
3. Team — to boost morale and illustrate the hard work members of the team have put in; to facilitate camaraderie amongst team members

Roles & Responsibilities

The following roles and responsibilities shall be delegated to persons who wish to assist in the operation or hosting of the event. Designation of these roles **shall be made in advance**.

- Event Director(s)
 - Direct the planning and approvals of the event
 - Coordinate the placement and scheduling of attendants
 - Direct the flow of vehicles during the event as per the track operation procedures
 - Be the primary point of contact for an emergency or general questions
 - Ensure registration of participants
 - Initiate emergency response for serious incidents
 - Verify the vehicles have been inspected
- Safety Attendants
 - Review the course prior to the event to ensure safe conditions
 - Monitor drivers to ensure they follow the course
 - Monitor spectators to ensure they do not enter the track when vehicles are driving
 - Monitor the course boundary for any unexpected intrusions
 - Notify the event director in the event of an incident
 - Act as first response for incidents within proximity such as tipped cones, off-course drivers, or vehicle issues such as loss of power

Emergency Contacts

Contact of emergency personnel is based on the predetermined actions in the *Risk & Response Section* of this document and at the discretion of the Event Director

- Vestal Fire Department/Broome County Emergency Services: **911**
- UPD Emergency: **607-777-2222** (Non-emergency: **607-777-2393**)
- Harpur's Ferry: **607 777-3333**

Approval Checklist

The following entities are to review and approve prior to the happening of this event:

- | | |
|---|--|
| <input type="checkbox"/> 1. Vince & Shop Techs | (which vehicles may drive) |
| <input type="checkbox"/> 2. Risk Management | (review risk plan) |
| <input type="checkbox"/> 3. TAPS | (review risk plan, reserve lot) |
| <input type="checkbox"/> 4. Student Association | (event approval, if directly associated) |
| <input type="checkbox"/> 5. Harpur's Ferry | (notify of event) |
| <input type="checkbox"/> 6. UPD | (notify of event escort if necessary) |

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

☐ 7. Facilities Management (notify of event | and if additional facilitation needed)

Vehicle Specifications

- General
 - The vehicle is equipped with rollover protection (front and main roll hoops) that will protect the driver in the event of a rollover
 - The vehicle is equipped with a foam impact attenuator that will absorb most of the energy in the event of front end collision
 - The vehicle is equipped with a 6 point driver harness with quick release buckle
 - The vehicle is equipped with three emergency stops:
 - one is located on the right hand side of dash panel, that is accessible by the driver
 - two are located above the drivers head on either side of the main hoop
 - The vehicle has four wheel braking and brake light
 - The vehicle is equipped with an insulation monitoring device [IMD] and shutdown circuit that will turn off the connection of the High Voltage System for any fault
 - The vehicle contains a high voltage battery within a steel container that nears a nominal 400 volts
 - The vehicle has a number of indicators for high voltage, ready to drive, etc, (**see vehicle operation section**)
- Speed
 - Vehicle speeds on the course are limited to 30mph. Verification provided upon request.
 - The electric motor can be limited by a change of motor controller parameters
 - At this speed, the chances of rollover are near zero with riders of any weight and height.
- Modifications
 - No modifications to the vehicles are permitted, with the exception of
 - minor repairs. If the proper tools are not available to return the vehicles to safe operation, the vehicle will be taken out of service for the remainder of the event.
 - adjustments to suspension components
 - adjustments to the motor drive unit if behavior is not as expected
 - addition or removal of aerodynamic devices (undertray/side-pod/wings)

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Logistics & Course

- Transportation
 - The transportation of the vehicle is to be performed in advance prior to the event
 - The vehicles are not road legal and must be escorted via U.P.D. or transported via trailer
 - The Binghamton Motorsports trailer may only be used if driven by a faculty/staff member
- Weather
 - General
 - The weather for the event shall be monitored by the Event Director via the [Binghamton Weather Station Site](#), or other reputable station
 - If there is severe or inclement weather the event may be canceled or rescheduled. Notification should be no later than 24 hours prior to the event, unless circumstances dictate otherwise. This is also the case if campus is closed
 - Lightning
 - Lightning shall be considered a severe weather event
 - The event director shall monitor the [Binghamton Lightning Alert System](#) the day prior and during the event
 - If lightning is predicted the event shall be postponed
 - If lightning strikes during an event, the activities shall end, the area shall be evacuated to the predetermined evacuation point – or – parties may stay situated in their personal, enclosed, vehicles, provided only if they have a direct communication with directors or attendants. The event will resume according to the timer on the [Binghamton Lightning Alert System](#)
 - Precipitation
 - In the event of precipitation greater than 0.1 inches per hour, the event will be postponed or canceled
- Course
 - The course shall be set up either the day prior, or directly before the event start
 - The track shall be reviewed for potholes and debris. If potentially hazardous track portions are found, the track shall be adjusted/relocated or in the worst case, the event canceled/rescheduled until the track has been remediated
 - The outline of the track shall be marked in chalk and traffic cones, or other means, as per the track map
 - All supplies shall be gathered and on site prior to the start of the event (see checklist)
- Traffic Cones
 - If cones are required for course markings, TAPS must be notified in advance to transport the cones (typically via trailer) to the site
- Costs
 - The costs of lot reservations and included services are to be paid in full by any entity which is associated with the event and able to absorb the cost. This includes, but is not limited to, SAE-SA, an SDP account, a Binghamton Motorsports Account, the Watson Fabrication Lab, etc.
 - Costs may include, but are not limited to
 - Missing cones post event
 - Signage provided to close lots
 - Personnel on site to direct traffic
 - Use of the lot at the provided rate (per space, per hour, etc.) if applicable

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Equipment & Supplies Checklist

Some or all of the following items shall be brought to the event site prior to the start. It is the responsibility of the event director to dictate, and ensure what items are accounted for and in working order.

Safety Equipment (Required)

- ☐ First Aid Kit
- ☐ ANSI Hi Viz Safety Vests
- ☐ At least two ABC Rated Fire Extinguishers and one BC Rated Fire Extinguisher
- ☐ Walkie Talkie Radios (with working batteries)
- ☐ Megaphone

Driver Equipment

- ☐ DOT approved Helmets in multiple sizes (S to XL) in good condition
- ☐ SFI rated arm restraints
- ☐ SFI rated driver suit
- ☐ SFI rated gloves
- ☐ SFI rated driving shoes
- ☐ Helmet radio system

Track Operation Equipment (As needed)

- ☐ Cones retrieved from TAPS
- ☐ Flags (Green, Yellow, Red, Checker, Black)
- ☐ Stopwatch
- ☐ Chalk
- ☐ Canopy tent
- ☐ Flag Tape

Consumables

- ☐ Trashbag(s)
- ☐ Rags
- ☐ Gasoline (pump room)
- ☐ Bottled Water

Maintenance Equipment

- ☐ Gantry
- ☐ Charging Cart
- ☐ HV Tools Kits
- ☐ HV Gloves & Face Shield
- ☐ Soldering Kit
- ☐ Compressed Air Tank & Pressure Gage
- ☐ Jump Pack
- ☐ Tools: wrenches, hammer, tape, zip ties, pliers, bit driver, hydraulic jack, jack stands etc.

Miscellaneous Equipment

- ☐ Advertising Banners
- ☐ Camera for social media

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Vehicle Technical Inspection

All participating vehicles are to undergo tech inspection and verified for functionality at least 24 hours prior to the event. The authorization of this checklist must be approved by Watson Fabrication Lab Faculty/Staff

Technical Inspection (Minimum Requirements)

- ☐ Ensure accelerator pedal and brake pedals are in working condition and has not been tampered with
- ☐ Ensure tire pressure is in operational range (16 +/- 2 psi)
- ☐ Ensure brake calipers produce adequate stopping pressure, have no visible leaks, and brake pads are not worn to their wear marks
- ☐ Ensure all fasteners are secured and bolts are tightened to specification
- ☐ Ensure that all driver indicators are working properly
- ☐ Ensure wire harness has no exposed portions
- ☐ Ensure the battery is secured to the chassis
- ☐ Ensure no rotating components are exposed in the driver compartment
- ☐ Ensure that all harness attachment points are fastened as per manufacturer specification
- ☐ Ensure all driver equipment is not worn or damaged beyond manufacturer specification

For the Full Mock Technical Inspection see additional documentation

Driveday Procedures — Prior to Event

- The Event Director will ensure the proper approvals are obtained
- The Event Director will ensure the vehicles have undergone tech inspection (minimum & full tech)
- The Event Director and/or attendees will review the lot for hazards, adjust accordingly
- The Event Director will ensure all parties have received and understood all of the applicable information in this document, that said parties agree to this information, directives, & procedures

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Driveday Procedures — Driver's Safety Meeting

The Event Director will run the drivers meeting. The purpose is to explain the operation of the vehicles, the outline of the course, risks, and what to do in the event of an emergency, accident, or incident. All drivers are REQUIRED to attend this meeting — they will not be allowed to drive otherwise. The conversation will conclude with a course walk-through. **Drivers shall be briefed and quizzed on controls prior to driving. They must pass the quiz with 100% percent accuracy to know all of the controls.**

All of the following information below this point shall be orated verbatim during the meeting...

Driveday Procedures — Vehicle Operation

- **Accelerator**
 - When seated on the vehicle, the pedal on the right hand side is the accelerator – this makes you go forward. The accelerator will increase the speed of the vehicle the more you press, and decrease the speed when you let off the accelerator
- **Brake**
 - When seated on the vehicle, the pedal on the left hand side is the brake. When pressed it will slow the vehicle down. The accelerator and brake should not be pressed at the same time, but in the event of driver error, the brake is powerful enough to stall the motor
 - The brake is equipped with an over travel switch. In the event of a brake failure at the pedal, slamming the brakes will trip the switch and turn off the vehicle
- **Steering**
 - The steering wheel turns the vehicle left and right. Some effort is required to turn at speed. Please note that the steering effort needed to turn the steering wheel increases with vehicle speed. It is advised to start out slowly and increase pace with familiarity.
 - Some [oversteer and understeer](#) may be present when operating. This is when the vehicle turns more or less than the driver's desired input. The effect is minor, but notable. Drivers should be aware of this phenomenon.
 - To correct understeer, ease the amount of steering wheel angle input, slow down.
 - To correct oversteer, slightly turn in the opposite direction, apply light throttle.
- **E-Stop**
 - The vehicle has three E-stops that will cease the operation of the motor. One is a button located to the right of the driver within the cockpit, the other two are located on the right and left side of the vehicle, behind the drivers head on the main roll hoop. Activating a kill switch is the first thing the driver (or bystander if safe) should do in an emergency.
- **Restraint Harness**
 - The driver is secured into the vehicle with a six point harness. The harness has two lap belts, two submarine belts, and two shoulder belts. The belts are all connected to a single point called the quick disconnect. There are also two arm restraints that are secured to the wrists. The loop of each restraint attaches to the quick release buckled before fastening, NOT the frame. This is such that upon release, the arms are also freed.
 - To secure the harness, sit within the vehicle and let the shoulder straps drape over your person. Next, wrap the lap and sub belts around your legs (an attendant will assist). Lastly, insert the wrist restraint loops into the buckle, and click all of the belt buckles into the connector. Finally, the belts should be tightened such that the driver is snug into the cockpit. That is, the torso and waist have only an inch or so of movement in any direction

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

- To release the connection and all belts, simply turn the release. All belts should immediately fall out.
- **Energize Sequence**
 - Low Voltage (GLV) System
 - Turn the key on passenger side clockwise marked Low Voltage
 - Tractive System Active
 - Turn the key on the passenger side clockwise marked Tractive
 - Ready to Drive (at the same time)
 - Brake pedal must be pressed
 - Ready to Drive button Pressed
 - RTD Sound
 - When the vehicle has approved the request, a sound will play indicating the startup sequence has completed and the vehicle is operable
- **Driver Display Information**
 - Dash Screen (left of driver)
 - Speed Indicator
 - RPM Indicator
 - Temperature Indicators (degrees C)
 - Battery Temp
 - Motor Temp
 - Controller Temp
 - Ambient Temp
 - Indicator Lights (right of driver)
 - Ready to Drive (RTD) Light
 - Tells the driver that the vehicle has no faults and can be started (see energize sequence)
 - Accumulator Management System (AMS) Light
 - Tells the driver if there is a fault with the battery system
 - Light is illuminated in red when there is a fault, off otherwise
 - IMD Indicator Light (IMDIL)
 - Tells the driver if there is a grounding fault
 - Light is illuminated red when there is a fault, off otherwise
 - Buttons
 - Ready to drive Button (right of driver)
 - Must be pushed in correct sequence (see energize sequence) to start
 - Bystander Lights
 - Tractive System Active Light (top of roll hoop)
 - When illuminated red, the voltage beyond the battery is high and tractive system is active
 - When illuminated green, the voltage beyond the battery is low and tractive system is deactivated
 - Accumulator Indicator Light (AIL) (located on passenger side of container)
 - When illuminated, indicates that the battery is at high voltage
 - Functions when battery is removed or installed

[Diagram in Progress]

- **Driver Feel**
 - The driver may experience the feeling of lateral acceleration when operating the vehicle, which is novel compared to driving a road car. If at any point you feel unsafe or incapable

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

of driving, stop the vehicle by pressing the brake, hit the kill switch, and wave over an attendant. The attendant will ensure the vehicle is powered off, you may then exit the vehicle, and attendant will roll the vehicle back to the pit lane

Driveday Procedures — Risk and Response

- While the chance of an incident is low, it is important to understand the risks, some include but are not limited to...
 - **High Risks:** Collisions, Bodily Injury
 - **Moderate Risks:** Health Emergencies, Vehicle Fires
 - **Low Risks:** Vehicle Damage, Fatigue, Dehydration, Sunburn
- **Vehicle-Object Interaction**
 - In the event of a low speed crash between the vehicle and a cone, light pole, or spectator/attendant the driver should press his/her foot on the brake, press the kill switch and waive for an attendant. The nearest attendant will come over to ensure the vehicle is powered off and assess the situation. If there is a small injury the event will be paused, the driver escorted to the pit tent and first aid applied. If there is a serious injury, the Event Director will call Harpers Ferry or 911.
- **Vehicle-Human Interaction**
 - In the event of a harmful interaction between the mechanical or powered components of the vehicle and the driver the driver should press their foot on the brake if he/she is able, press the kill switch and waive for an attendant. The nearest attendant will come over to ensure the vehicle is powered off and assess the situation. If there are minor injuries the event will be paused, the driver escorted to the pit tent and first aid applied. If there is a serious injury or the driver is unconscious, the Event Director will call Harpers Ferry/ 911.
- **Fires**
 - In the event of a fire on a vehicle the nearest attendant will waive the red and black flags with crossed arms the driver to tell them to stop, the driver should press the kill switch and immediately exit the vehicle. The Event Director will notify the driver by megaphone if they do not immediately respond to an attendant waiving. Concurrently, the Director will prepare to call emergency services if fires become uncontrollable. All persons should move away from the fire immediately
- **Severe Weather**
 - In the event of a large fire or severe weather event, the Event Director will announce an evacuation to the safe point (Hinman Dining Hall). Participants and spectators shall move briskly, but not run to the designated location
- **Health Emergency (including electric shock)**
 - In the event of a health emergency the driver should press their foot on the brake if he/she is able, press the kill switch and waive for an attendant. The nearest attendant will come over to ensure the vehicle is powered off and assess the situation. If there is a health concern the event will be paused, the driver escorted to the pit tent the Event Director will call Harpers Ferry or 911.
- **Mechanical Failure**
 - In the event of critical failure of any mechanical or powered components of either vehicle, repairs will be attempted on site. If the component is deemed unrepairable by any of the directors or attendants, the vehicle will be decommissioned for the rest of the event.

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

- ***If You Cannot Stop (or freeze)***

- In the event of a brake failure or failure of the driver to remember how to stop, the driver should cease using the accelerator pedal and hit the killswitch button and aim the car away from any persons
- If the driver cannot stop or slow down appropriately into a turn, the driver should continue to follow the course if able, or drive in a straight line away from as many people as possible and continue around an open area of the track or course. Then hit the E-stop.

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Driveday Procedures — Spectator Rules

- Spectators will not be permitted onto the course at any time unless the track is not live (no vehicles running) and they are granted permission for a certain event or reason
- Only pre-designated persons will be allowed on the course to facilitate vehicle driving/repair
- Spectator areas will be clearly marked with cones and/or a type of caution tape
- Spectators should always be cleared from the track before the vehicle is started
- It is the responsibility of the Safety Attendants to check for spectators along the track at all times

Safety Guidelines — General

- Only authorized vehicles (those that are approved and have been verified for compliance via tech inspection) will be able to be driven on the track
- All participants and spectators will be made aware of the risks associated with the event
- All participants and spectators will attend the safety meeting and be briefed on the risks, safety procedures, and track operation
- All drivers shall be required to wear a SNELL approved helmet with a visor, SFI rated driver suit, SFI rated driving gloves, and SFI rated driving shoes at all times while operating the vehicle.
- Only individuals helping set up or run the event are permitted to park near the track (see map).
- Spectators will be kept at a minimum safe distance of 10 feet away from the live track (see map).
- Passers by, and spectators at a distance greater than 25 feet of the event perimeter, need not attend the safety briefing. Those who wish to enter the zone after the briefing will be asked to maintain such distance, or receive an appropriately abridged individual safety briefing

Safety Guidelines — Preventative Measures

- At all times throughout the event, there shall be at least two safety attendants monitoring the course as per the track map to ensure the driver is safe and there are no track disturbances
- The attendants must wear ANSI approved safety vests and at least one will be equipped with an ABC rated fire extinguisher
- Attendants must have portable radios on their person at all times when working on the track
- First Aid equipment (which consists of bandages, bleed kit, antibacterial cream, etc) will be on site placed in the main tent (review map below).
- The first aid kit is to be inventoried prior to the event by the Event Director
- An ABC rated Fire Extinguisher shall be possessed by the attendant in the middle of the track
- All gasoline will be stored in UL approved containers
- An additional BC rated Fire Extinguisher must be located in the tent

Safety Guidelines — General Incident Response

- When in doubt, hit the kill switch. STOP, then assess the situation. Do not play hero, do not panic. Let professionals, event staff, and emergency services handle the situation as designated by roles and responsibilities above
- Upon the arrival of emergency services, University authority, or other entity, they reserve the right to call order and give directives regarding the situation at hand
- First Aid shall be available to administer by event hosts onsite in the event of small cuts, bruises, etcetera during the event.
- In the event of a necessary evacuation, such as for a vehicle fire, all applicants are to remain calm and walk briskly away from danger(s) at the direction of onsite officials.
- Internal combustion engines may catch fire if overheated. As such fire extinguishers shall be on site in the event of a fire. Emergency services will be contacted if any fire danger is to occur.

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

- In the event of a medical emergency, designated officials shall call Harpur's ferry or 911.

Driveday Procedures — Track Operation

The event director and attendant must all coordinate to enable smooth track operation. All parties shall become familiar with the following procedure and understand the location and role of each individual. The sections of lot M designated as M3 and M4 shall have a single test track for the use of the Motorsports Formula group.

Command & Informational Flags

- **Black Flag**
 - Stop at the Flag, return to the start if on the track for inspection or discussion. The driver has disobeyed protocol, or something has been observed that needs inspection.
 - *Note that this flag has been combined with black and orange dot flag from competition*
- **Checkered Flag**
 - Run has been completed. Continue around the track and return to the starting point.
- **Green Flag**
 - Approval to begin your run, enter the course under direction of the starter. If you stall the vehicle, please restart and await another Green Flag
- **Red Flag**
 - Come to an immediate safe controlled stop on the course. Follow attendant directions.
 - *Also replaces object on track flag (red and yellow stripe)*
- **Yellow Flag**
 - Slow down, continue on course as directed
 - *Slightly different from competition flag, and replaces stationary and waving*

Drivers Line & Race Gear

Track operation will proceed as follows:

- The driver next in line will put on all of the following equipment
 - DOT approved Helmet
 - SFI rated arm restraints
 - SFI rated driver suit
 - SFI rated gloves
 - SFI rated driving shoes
- The nearest attendant will check for fitment as follows
 - Helmets should lightly press against cheeks, and no more than two fingers should fit under the tightened neck strap. Visors are clear, not tinted, unless sunlight is significant
 - Clothing should not be baggy or loose
 - All zippers and snap buttons should be closed
- If the driver's sizes are not available due to the person currently driving wearing it, they will wait until the end of the current run to receive the equipment.
- The event director or delegated attendant will call the next driver waiting in the drivers line
- From the spectator area, the individual next in line will proceed to the start
- The new driver will put on safety gear if not prior and the attendant will ensure a proper fitment
- The driver will sit in the cockpit and the attendant will secure the lap, sub, shoulder belts and wrist restraints as described above in the vehicle operation section.
- If the driver cannot fully depress the brake pedal, or their knees hit the roll hoop, the pedals shall be adjusted fore or aft by the attendant

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Driving Instruction – Operation and Egress Practice

- The driver will suit up and stand next to the vehicle
- The driver will be verbally quizzed on the meaning of all indicators and buttons
- They will be asked to sit in the vehicle and participate in the startup sequence
- Once complete they will be asked to shut down the vehicle
- Once off, the attendant will prepare a timer for egress
- The attendant will say go, and the driver must egress the vehicle within 5 seconds, best of two attempts
- If they cannot egress within this time they will not be allowed to drive the vehicle

Driving Instruction – Driver Warmups (basic autocross)

- The attendant will verbally explain the following to the driver (repeated after drivers meeting):
 - You will have 2 laps around the autocross circuit
 - The goal is to go slow and get familiar with track at higher speeds than the course walk
 - The driver will be verbally quizzed on the meanings of flags
 - The attendant will ensure the driver is ready, back away from the vehicle and waive the green flag
 - The driver will complete a lap, the attendant will waive the checker flag
 - The driver will continue slowly around the track and return to the starting point and stop the car

Driving Instruction – Acceleration/Brake Test

- The attendant will verbally explain the following to the driver (repeated after drivers meeting):
 - The vehicle will be stationary at the starting position between these two cones
 - There will be four attendants around the braking area, at least 15 ft from the track
 - Each attendant will be responsible for watching a wheel to see if it skids or slips
 - The first attendant will waive the green flag to indicate when the driver may begin accelerating a straight line
 - Another attendant will start the stopwatch at the same time to record acceleration
 - Once the vehicle hits the next set of cones, the attendant will click the stopwatch
 - The driver will fully depress the brake attempting to lock all four wheels
 - All attendants will monitor a wheel and give a thumbs up for skid, thumbs down no skid
 - The process may be repeated with different drivers and brake balance may be adjusted in between runs

Driving Instruction – Skidpad Test

- The attendant will verbally explain the following to the driver (repeated after drivers meeting):
 - The vehicle will be stationary at the starting position between these two cones
 - An attendant will be ready at the start with a flag and another with a stopwatch
 - When the attendant and driver are ready the attendant will waive the green flag
 - The driver will follow a figure 8 pattern as quickly as possible within limits to not slip
 - The figure 8 will be completed twice, best time taken

Driving Instruction – Rain Test

- The vehicle will be stationary at a designated location, a water hose will be drawn from nearby
- The vehicle will be powered on via the energize sequence

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

- The vehicle will be MISTED with water for 2 minutes, the vehicle will be observed
- Once complete the vehicle will be shut down for inspection, and re-energized for further inspection

Driving Instruction – Autocross

- The attendant will verbally explain the following to the driver (repeated after drivers meeting):

Track Laps

- You will have 4 laps to complete the circuit as fast as possible
- The green flag will be waived to indicate you may begin lap 1
- A green flag will indicate to continue into lap 2
- A checkered flag will indicate the end of lap 3 and the beginning of lap 4
- During lap 4, a waving yellow flag will indicate to slow down when returning near the start

Flagging

- A stationary yellow flag will indicate where to stop after entering the lane
- A red flag means to stop immediately on the track and await instruction
- A black flag means to continue back to the start, stop the car and await instruction
- A crossed, waving black and red flag means fire and to exit the vehicle immediately

Starting Procedure

- Please hold the brake and wait while I turn on the vehicle
- When you are ready give me the thumbs up with your other hand
- When I am ready for you to go, I will give you the green flag
- If you stall, you must await for another green flag to begin
- Remember to keep your hands and arms inside the vehicle at all times
- (Check visually with thumbs up or radio from attendants that the course is clear)
- (Driver gives thumbs up)

Track Recap

- Attendant waives green flag
- The driver will do a lap
- The finish line attendant will wave the green flag
- The driver will do lap 2
- The finish line attendant will wave the green flag
- The driver will do lap 3
- The finish line attendant will wave the checkered flag
- The driver will do lap 4
- The finish line attendant will wave the yellow flag, then hold stationary
- The driver will slow down and stop at the flagger at the end of lap 4
- The finish line attendant will turn off the vehicle and give the thumbs up to the driver for egress
- The driver will go to the designated data person and describe how they felt driving the vehicle

Driving Instruction – Endurance

- The procedure for endurance shall be the same as above with the alterations of:
 - The goal is to maintain consistent times, not the fastest times
 - The goal number of laps is 22 or as many as possible

Driver Error

If you hit a cone

- Continue proceeding through the course

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

- Safety attendant will quickly proceed to the cone and replace/remove it

If you get stuck on cone

- Come to a stop by pressing the brakes and hold them until directed. Press the emergency stop
- If you do not notice, a red flag will be waived
- Wait until a safety attendant arrives and removes the stuck cone. They will run through the start procedure and allow you to continue with your running session. You must wait for the green flag

SAE Formula Drive Weekend Plan

Plan Revision Date: Sep 16, 2025

Track Map

