



## 2011 TCS North American Finals Driver's Manual

Welcome to the 17<sup>th</sup> Annual TCS Finals. The Drivers manual is your guide to the event and it includes important information regarding the race and its procedures. Please read it carefully. Questions about the material in the manual will be addressed and answered during the Saturday morning drivers meeting.

### Section 1: Dates and hours

#### **Event Race Dates: August 27-28, 2011**

Saturday and Sunday Track hours: 7:00 a.m. to 6:00 p.m. Gates open at 6:45 am.

#### **Weekday practice dates: August 25-26, 2011**

The Tamiya Track will be open for practice on Thursday and Friday, August 25-26. The track hours are from 8:00 a.m. to 4:00 p.m. Please note the building facility next to the track is no longer the property of Tamiya America, Inc. You will need to park on the street. Please adhere to the red curbing "**no parking**" warnings.

Tables, chairs and power will be available beginning Friday morning. Running water, trash cans and outdoor portable out-houses are provided.

The Tamiya track is a "non-smoking" facility. Smoking is not permitted within the inside gates during all hours of operation. No exceptions.

### Section 2: Practice on Race days

#### **Practice: Saturday and Sunday**

There will be very limited practice on Saturday and Sunday. Practice will be controlled by class category. The class practice order is:

***GT-2***

***FWD***

***Mini***

***GT-1***

***F-1***

***Spec***

The above order will also be the race-day qualifying class order. (*Subject to change depending on class entry conditions*)

**Note:** You will not be able to practice with your spec handout motor if you are in the **Mini, GT-2 and F-1 classes**. The technical inspection personnel are implementing the same and successful procedures as were done in the past three years with regards to motor tech. ([Motor impound at all times. See section 5 for explanation on how motor impound works](#)) Motor impound is Tamiya's way of providing a level playing field as is humanly possible by our rule standards.

### Section 3: Event arrival procedures

#### **Saturday August 27: Driver attendance roll call**

All drivers must "check-in" between 7:15 am and 8:30 am Saturday morning August 27th. The "check-in" area is located in the main-tech tent. (See facility map)

At this point we will verify you are participating in the correct class, we have your correct radio frequency and verify your personal AMB-it/My-Laps personal transponder number. Note: If you do not own a personal timing and scoring transponder we will assign you a "house-loaner" transponder before each of your race heats. House transponders are to be returned after each race heat immediately.

#### **Personal transponder Information:**

If you are interested in purchasing a personal transponder they can be found at most hobby shops that carry R/C racing car gear. "My-Laps" transponder website: [http://www.mylaps.com/index.php/us\\_eng/Websites/B2C/rc/shop](http://www.mylaps.com/index.php/us_eng/Websites/B2C/rc/shop) For R/C racing the new personal transponder is called the "MyLaps RC4 Hybrid" formerly AMB.it R/C personal transponder. The Hybrid RC4 is the successor to the tried and true transponder the R/C industry has been using for a decade. The successor is smaller and lighter.

#### **Drivers' Meeting**

8:30 a.m. Saturday

During the Drivers Meeting the race director will field any questions regarding the regulations and procedures found in the [TCS North American Finals Drivers Manual](#). [Any class rules clarifications questions will also be addressed during the drivers meeting.](#)

### **Section 4: Start times**

#### **Qualifying start time**

9:00 am start time on Saturday (A one hour lunch break will be taken after the 2<sup>nd</sup> round of qualifying)

9:00 am start time on Sunday (A one hour lunch break will be taken after the 4<sup>th</sup> round of qualifying)

There will be 3 rounds of qualifying on Saturday and one final round on Sunday morning.  
*(Subject to change depending on class entry conditions)*

### **Section 5: Procedures**

#### **Spec Battery procedures**

In the MINI, GT-2 and F1 classes, the TCS NAF "mandatory specification" battery must be turned into TECH prior to the first heat race for legality inspection. The 2011 spec batteries are: **Orion Rocket Pack 4000 25C (item 14107)** and last years **PEAK Power-Flo 4000 30C battery (item PEK00544)**. **Please note:** You may use any type of battery plug for your battery.

**Note:** The internal chemistry of the Orion and Peak battery come from the same manufacturing source. This has been verified by the source manufacture. Do not pay attention to the C-rating.

Racers may have their batteries inspected on Friday August 26 between the hours of 9:00 am to 3:00 pm and Saturday between the hours of 7:00 am and 8:30 am. The location for inspection is the main-tech area. (See facility map)

Late battery purchases will be done on site through the on-site hobby store. (Speedtech R/C) When your battery passes inspection you will notice an orange security label on the long and short side of the battery case. ***This label is not to be removed!*** The label will tear if tampered with and it will notify the tech officials that possible tampering may have occurred. Racers who already own the spec battery or who are electing to use last years' spec battery must submit it to the Tamiya Technical inspectors for new "tech" labels and to make sure they meet the rules.



**Orion Item 14107 and PEAK item PEK00544 only!!**

### **540-J Spec Motor Tech Procedures and rules**

The following rules and procedures apply to Mini, F-1 and GT-2

#### **MINI, F1, GT-2**

1. The Spec motor for Mini, F1 and GT-2 must always remain in tech after qualifying and racing heats.
2. The stock bullet connectors and wires must remain on the motor. You may use any aftermarket Tamiya style, female bullet connector on your Speed Control.
3. The stock wire may not be shortened or replaced.
4. Adding a Shockty Diode is permitted, but you will have to add it to your speed control wires and not directly to the motor.
5. "Comm Drops" or any kind of additives applied to the brushes or comm is strictly prohibited.
6. Bushing oil will be added by the TECH officials. You will not be permitted to bring your own.
7. Do not bring motor spray to TECH.
8. After your qualifying heat you must bring your car to Post Tech Inspection and it must remain there until you're finished turn marshaling. (See facility map)
9. After marshaling the race heat immediately after your race heat, you must remove your motor from your car. The motor will remain in the TECH area at all times. A tech official will oversee the process of your motor removal. Remember to bring your motor removal tools. (Helpful hint: You just need two tools to install your motor and pinion: 1.5mm allen driver and your motor screw driver, usually a Phillips 2.0mm or a 2.5mm ball driver. Put your tools in a Zip-Lock bag to help you manage carrying them to tech)
10. **Mini:** The motor you use in Rounds one, two, three, four and the mains will not be the same. In every round you will receive a different motor from the Mini class Johnson 540-J motor pool. The method is used to keep things fair and to reduce the lucky motor issue.
11. **F-1 and GT-2:** The motor you use in Rounds one, two, three, four and the main events will be the same. Unlike the Mini class, you will have the same motor because you are in control of the gearing. If you over gear your motor and "cook it", you are only hurting your chances for success in the event. The procedure is done to help you settle on the gearing you've found that best works for the motor handed to you.
12. **FWD (FF-03):** Drivers in this class must use the Spec Tamiya 540-J two-slot Johnson motor. The class will not have motor impound, but TCS RPM limits apply (18,750) RPM. You are also limited by the final drive limit as used during the regular regional race rules. (3.83 max final drive) Racers in this class may bring their own motors to the event. You do not have to pre-purchase them from Tamiya.

**NOTE:** Mini, GT-2 and F-1 participants are permitted to buy only one motor during the TCS Finals online registration process. Mini drivers have a fixed gear ratio, so over gearing and hurting the motor is not possible or highly unlikely. F-1 and GT-2 cars have open gear ratios. Therefore we caution you to not to over gear your car. You will not receive free replacement motors due to overly aggressive gearing.

**Gearing guidelines:**

**F-1:** Gearing taller than 3.44 final drive ratio (93 spur, 27 pinion) will be considered “at your own risk”

**GT-2:** Gearing taller than 3.8 final drive ratio in GT-2 will be considered “at your own risk”.

**FWD:** You are limited to the 3.83 final drive ratio rule as the tallest ratio you may use as stated in the regular season rules.

**Spec 540-J Motor FAQ**

**Q: I believe there is a problem with my “spec” motor. May I change it?**

**A:** All motors have been checked and are within a certain percentage of each other. If for some unforeseen reason you believe you have a problem, we will check it in tech with the Tamiya motor checker. If it falls within specifications you will be required to continue the event with that motor. If it does not fall within specifications you have the option to “buy” a second motor, but the first motor is out of the event and can't be used. There's no going back to the original motor.

**Q: My motor blew up! Can I get another?**

**A:** Yes, if you blew up a motor you can “buy” another. Keep in mind the motor has to be below our motor checker set parameters to qualify for the spare motor purchase. If you over geared the motor and it falls within our specifications, you must continue the event with that motor. As before, if you qualify to buy a “back up” motor, the motor that failed is out of the event. We caution you to avoid the risk over gearing your motor!

**Q: How many replacement motors can I go through?**

**A:** Technically 2, but there is a catch. The first back-up takes into account unforeseen circumstances beyond your control, so no penalties are given to the racer. However, the 3<sup>rd</sup> motor takes into account that you are doing something funny to the motor, which we will assume is over gearing it, since the motor never leaves the TECH area. If you have to go to the 3<sup>rd</sup> motor you will incur a 5 position penalty on your best qualifying run. TCS is using the “Qual Points” format. Your best “Qual” round will incur the 5 position penalty irrespective of when you switched to the back-up motor.

If you have to go to the 3<sup>rd</sup> motor during the triple “A” mains, the 5 position penalty will be applied to your best finish “A” main.

**Note:** Replacement motors (if you meet the above criteria) will be on sale at the event. \$15.00 each, cash only.

GT-1, FWD and Spec must adhere to the regular season TCS rules.

## Section 6: Qualifying & Racing format

**Qualifying format**

Mini, GT-2 and F-1 will start their qualifying race heats using the IFMAR start format. **IFMAR (International Federation of Model Auto Racing)** <http://www.ifmar.org/>

GT-1, FWD and Spec will use heads up starts.

All qualifying heat races are 5 minutes long.

**How IFMAR starts work:**

All racers in a qualifying heat (10 racers in a heat qualifier) will be on track on individual clocks at the same time. The race director is going to grid your car according to the race programs (RC

Scoring Pro) random assignment order for the first round. At the "start tone" the race director is going to call out your car number at which point you are to begin your qualifying run immediately. Since everyone is on their individual clocks, do not be concerned if the car behind you is faster. Simply, allow the faster car behind you to pass when they are within a few car lengths. It is not necessary to move beyond a few car lengths out of the way. It is the responsibility of the faster car to pass on the "inside driving line" and for you to move over on the outside driving line. Make sure to move over when it's safe to do so. After each complete round of qualifying every racer will be ranked based on a [Qualification-points system](#).

### **Scoring Qualification System Explained**

Racers! Keep this in mind. The following Qualifying-points system does not have throw-outs rounds or races. While your best two rounds place you in the appropriate main event, ties are settled by using all rounds depending on how far the tie goes between racers. Do not think of this system as having throw-outs, it definitely does not. Every round could count to some degree. This is the same system used by other U.S. based racing organizations.

- A.** The top Qualifier in each round gets zero points, second gets two points, the third ranked qualifier gets three points, etc., increasing by one point increments per position.
- B.** The final class Qualifying order will be determined by the sum of each driver's best two rounds' points. This will determine the main events. The object is to make the top tier "A" Main event.
- C.** First level ties will be broken by the drivers' third best round points. Second level ties will be broken by the drivers' fourth best round points, and so on. If ties still exist, once all round points have been used, then ties will be broken by the sum of the laps/time results of the tied drivers' best two point rounds. Thereafter if ties still exist, these will be broken by the best single laps/time result for each driver, regardless of the round in which it was recorded.
- D.** In cases where only two rounds of Qualifying could be completed, the final Qualifying order is based on the single best points, with points from the second best round being used as the first level tie breaker, and the total laps/time for the two rounds being used as the second level tie breaker.

### **Main Events**

The following classes will run Triple "A" mains:

**Mini**

**GT-2**

**F1**

[Triple "A" main event definition](#): 3 races that are run to determine the overall class winner.

All Triple "A" Mains are 8 minutes long. (*Subject to change depending on class entry conditions*)

The following classes will run 1 single, 8 minute main event:

**FWD**

**GT-1**

**Spec:** Spec will run 1 single, 6 minute main event.

Note: (If time permits we will add multiple mains)

"B" and lower mains will be single 6 minute main events. There are no bump ups at the TCS Finals.

## Triple "A" Main scoring

A. The final results of a triple A-Main event will be decided by a point system based on one hundred (100) points for the winner of each individual A-Main on down to (91) points for the tenth placed finisher in each individual A-Main. The total of each driver's best two (2) out of three (3) Mains points will count. The first tiebreaker will be the points of each tied driver's third best (remaining) Main. In the event of a need for a second tiebreaker, the total laps and times of the best two (2) out of three (3) Mains will be used.

B. A driver who wins the first two mains of a triple A Main event will sit out the third Main since he is now crowned champion. The rest of the final standings are determined in A3.

## Section 7: Pre-race procedures

### Tech Procedures

#### Mini, GT-2 and F-1

The above class drivers will have to go through 2 tech procedures. Please report to Pre-Tech two full race heats prior to your race.

**Tech Area #1:** Racers are required to show up to the "Motor Install" tech area 2 heat races in advance. This will be the area where you will install your SPEC hand out motor. Don't be late and bring the two tools you'll need to install your motor!! (Hint: A Zip-Lock bag works great to store your tools during the hectic activities of the tech area)

**Tech Area #2:** All cars must go through tech area #2 before you run your qualifying heat race. After your car has passed technical inspection it must remain in the tech area. You or your Pit person must remain in the tech area until your round is up. We will have a table at TECH where your car must remain until your heat race is up. If your car goes back into the pits for whatever reason you must go through tech again. It is up to you to arrive at Tech a full heat race in advance. It is also up to you to be on time. We will be running a tight and on time schedule and will not be giving grace periods due to any of your circumstances. Make sure you have the right transponder and car number on your car to avoid delaying the race program.

**Note:** If your car passes tech once it does not mean it will pass again automatically for the next round. We may have missed something. If we catch an infraction, be ready to make your car comply with the rules immediately.

GT1, FWD and Spec need only report to Tech area #2.

### **Tech inspectors will look for the following items:**

1. Car weight (certain classes have weight minimums, see rule book)
2. Car number
3. Spec Motor or allowed motor for class
4. Spec Battery or allowed battery for class
5. Cars meet the class rules and requirements

### **Car numbers must be on all four corners of your vehicle.**

1. Front windshield
2. Rear window
3. Both sides of the cars doors or windows

### Post Tech

After your heat race, your car and radio must go to Post Tech on the opposite side of Pre-TECH and stay there while you turn Marshal. (see facility map)

### **Transponders**

Your personal transponder must be mounted in a way so it is ***NOT*** directly over metal or carbon fiber. Improperly mounted transponders will limit the signals strength and we will not hand count your car if you encounter a problem. It is a good idea to write down your personal transponder on the windshield of your car with a Sharpie marker.

Drivers using the house transponders must mount them in a secure location. You may use a transponder mount (most Tamiya cars have these) or you may mount it on the inside of your car body. If your house transponder falls out we will not hand count you. It's up to you to make sure to use a sturdy body clip to secure it. House transponders must be removed immediately after your heat race and given to the person in Post Tech so the next person may use it if needed.

### **Grid Procedures**

For the first round of qualifying you will grid your car according to your car number. After the first round (second round) we will have a resort. The resort uses your laps/time finish to place you in the appropriate grouping. You will be placed in a new heat and you will qualify with the resorted group for the remainder of the first day of Saturday qualifying. Your start position from thereafter will be determined on how you qualified with your heat peers.

### **Drivers Stand Position**

You will stand on the drivers stand according to your car number for the first round. The stand is marked from left to right with 1-10 numbers. If racers want to swap positions between themselves it is allowed. After the first round is run, you will enter the drivers stand according to how you qualified in your race heat and pick your spot accordingly.

### **Racer Resort**

There will be a racer resort after the first and third round of qualifying. The racer re-sort is designed to match drivers of like abilities with each other. After the racer resort you will grid your car according to how you qualified among your peers in your heat.

Note: Pay close attention to the race resort heat sheets. Your car number has likely changed!

## **Section 8: Post Race procedures**

### **Turn Marshaling**

All racers are required to marshal the race immediately after their heat race. Your car and transmitter must be turned into Post Tech after completing your qualifying race and remain there until your turn marshaling duties are over. You must report to a numbered red cone found throughout the track. The red cones will have a number on them. Please report to the numbered cone that corresponds to your car number.

### **Race results**

The printed heat race results will be posted behind the large clip board behind the timing and scoring tower. Do not ask the race director to look at them as you can see the results after you turn marshal the subsequent race heat.

### **Random Post Tech Spot checking**

Racers will be spot checked at the Race Directors discretion.

### **A main Tech teardown**

The top 3 cars in the "A" mains will be torn down to make sure cars, motors and batteries have fully met the rules and regulations. If a serious rules infraction is discovered, that clearly gave the driver an advantage over the competition, the driver will be disqualified from the events final result standings.

## Section 9: Race announcing and commentary

### In-race announcing during qualifying and racing

The race director will be calling the race and there are some important things to listen to in order to aid you during the race.

1. The race announcer will call you by your car number. Make sure you know what your car number is at all times.
2. The race announcer will call traffic to move the faster cars along slower traffic. Pay close attention to instructions to move over or avoid an accident the race announcer is aware of.
3. The race announcer will announce the following during the course of the qualifying heat race: a. the running order by car number b. the pace of each competitor along with their fastest lap time c. traffic and time remaining in the race.
4. The race announcer will do his best to call traffic and accidents, but yelling at the announcer will yield no credence. Learn the track map as each section of the track has a name to it. By knowing the section names of the track you are better equipped to know where accidents have happened when called out by the race announcer.
5. During the main events the announcer's responsibility will be to protect the Pole Sitter or leader from being taken out by overly aggressive drivers. If you're in last place don't expect 100% of the announcer's time to be focused on you. Mid-pack battles will be called out during the appropriate times and when possible. The battles at the front of the race will take precedence.

## Section 10: Racing etiquette

### Passing

Passing a competitor under racing conditions can become tense and heated. Many competitors, like in many other sports, like to use the word "foul" more often than it deserves credence. An acceptable racing pass is when a car pulls along side a competitor on the inside driving line while in a straight line. If the attempting passer is at least half way alongside his rival, the rival should concede the corner. The most common driving mistake is failure to concede the corner by trying to shut the door when the passer has a foot already inside. Tip: If you concede the corner, you have a 50/50 chance your rival will not be able to maintain the optimal driving line in subsequent corners. At this point you can re-take the position if you follow close enough behind. Passing on the outside is a risky proposition by your opponents. If a competitor attempts to pass on the outside line they risk that you will take a late apex. The leading car has the right of way in a outside passing attempt. Don't expect a penalty to be given to your rival if he defends the inside line while you're attempting a risky outside line pass. None will be given. Pass on the outside at your own risk.

### Penalties:

At the start of each main event it is the responsibility of the race announcer to protect the pole sitter as much as possible at the start of the race. They earned pole and the full attention of the announcer is to protect them at the start of the race.

**Warning!** As in full size racing, the pole sitter usually has the best chance at a clean start, unless the racers behind them exercise complete poor judgment or they miss the start tone and spin out. It is 100% certain that one, some or many of the rivals behind the pole sitter will get the short end of the stick at the start of the race. Competitors jockeying for position and cars getting a little loose at the start of the race will undoubtedly cause some wrecks. That's racing and there are no restarts if the middle or back pack of cars wreck.



The announcer will have one additional set of eyes watch the main events. Penalties may not be given right away. It may take a lap or two before a “stop and go” penalty is issued to the guilty racer while the incident is being investigated by the announcer and the second set of eyes. Once the penalty is given, the penalized racer must adhere to the “stop and go” penalty within two laps of it being given. If the penalty is ignored the racer will be black flagged and scoring will cease. (See track map layout for penalty box location)

**Racers tip A:** Do not interrupt, bother or distract the race announcer during the main events. Don't send family members or friends to the timing tower to ask how their loved one is doing. Chances are he will miss something important on the track and your loved one will fall victim to a missed call. As in all forms of sports, missed calls happen and wrong calls are made. The race director is human and not everything can be seen or caught.

**Race tip B:** If you cause an accident or take someone out that gives you the advantage, it is best to let the person you took out get ahead of you again. If you do this right away the penalty may not be issued. However, it is at the discretion of the race director to levy further punishment.

## Sportsmanship

### Definition:

Sportsmanship refers to virtues such as fairness, self-control, courage and persistence. It is associated with interpersonal concepts of treating others and being treated fairly, maintaining self-control in dealing with others, and respect for both authority and opponents.

Tamiya America expects all of its competitors to conduct themselves in a sportsmanship like manner at all times during the event. If we see anything or anyone that diminishes sportsmanship they will be asked to leave the event. It is our goal to bring you a fair and fun racing experience. It is also our goal to improve our program with each passing season. Please keep in mind there will always be new people in the series that need your tutelage, help and patience.

Good luck to everyone!!!!

## Facility Map

The facility map on the last page of this manual shows the layout of the Tamiya Raceway facility. Please take note of the following:

1. The main tech area and post tech area. These are the two stations you will report to before and after your race.
2. Hobby shop, Tamiya display area and Inside Sim Racing's sim-racing game demo area.
3. The track general layout with the official names of the track corners and sections. Learn these names as they will be used to identify where the action and or accidents may be occurring.
4. Orange, numbered, turn-marshal cone locations where you need to report to after your race. If you're car number 3 report to cone 3 etc.
5. Penalty zone: This is the area you will park your car if a driving penalty is levied against you.

*Version: 8/9/11*

# STAGMORSA

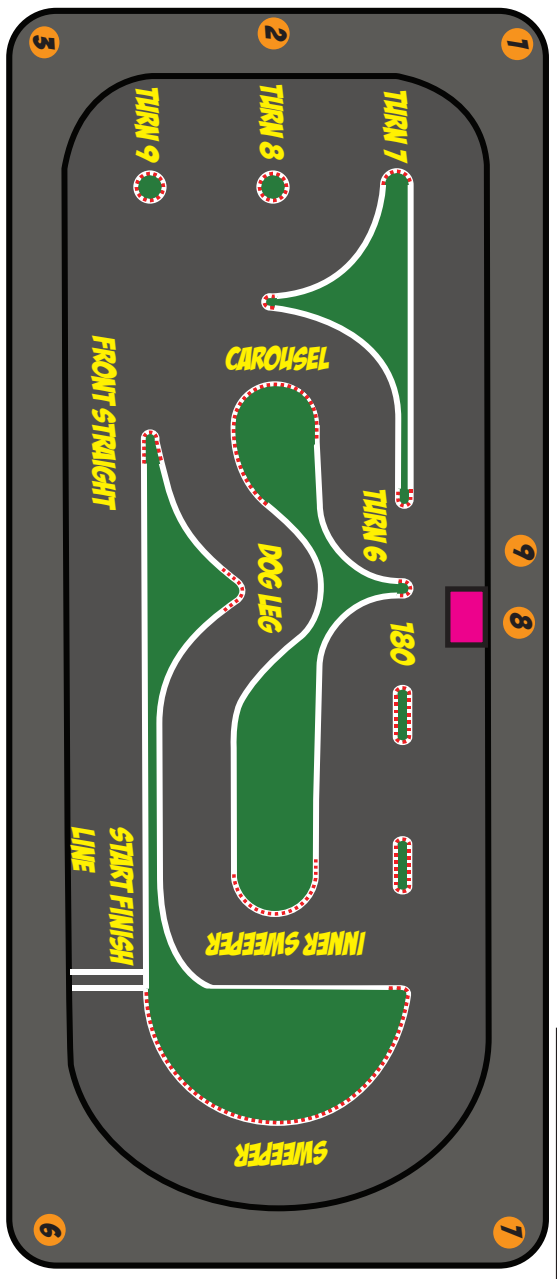
# FACILITY MAP

- ENTRY
- TAMIYA DISPLAY TENT
- HOBBY SHOP SPEEDTECH R/C
- INSIDEMOTORING.TV

ENTRY

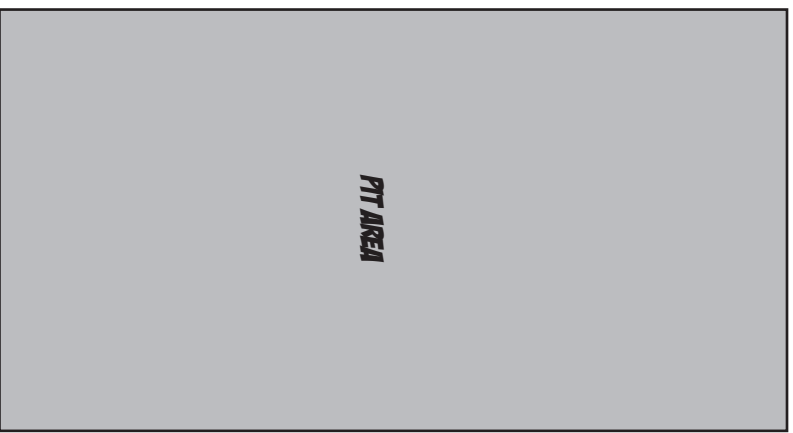
SPECTATOR VIEWING AREA

POST TECH & MOTOR REMOVAL



SPECTATOR VIEWING AREA

SPECTATOR VIEWING AREA



DRIVERS STAND

SCORING & TIMING

RESULTS POSTED HERE

MAIN TECH AREA & MOTOR INSTALLATION



- TURNMARRSHALL CONE MARKER
- PENALTY BOX