

## CALIFORNIA SPORTS CAR CLUB'S

### Lotus Challenge Series:

**PURPOSE:** The purpose of these regulations is to provide a wheel to wheel racing experience for cars within the Lotus Challenge Series to race with the California Sports Car Club / SCCA. The regulations here must be viewed as supplemental to the General Competition Rules (GCR) of the SCCA which provides for all of the required safety equipment, for car and driver. These regulations are specifically created to classify these cars into 5 classes within the Lotus Challenge Series. Some cars may also qualify to run in the T 2 classes and thus are eligible to double dip in both classes. Cars running in the T 2 series, must meet the T 2 requirements.

Vehicle Classing valid after 1/01/09

### Lotus Challenge Series

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#### Classes

1. N/A Stock
  - a. Elise
  - b. Exige
  
2. N/A Modified
  - a. Elise
  - b. Exige
  - c. S1 Elise
  
3. Forced Induction
  - a. Elise SC
  - b. Exige S
  - c. Katana cars
  - d. Bwr Cars
  - e. Bemani supercharged cars
  - f. PEL racing supercharged cars
  - g. S1 Exige
  
4. Cup
  - a. Cup 240
  - b. Cup 255
  - c. Cup 260
  - d. Any FI car that makes between 245-260 WHP and runs on Street Grooved Tires

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5. Ultra Stock
  - a. 2-Eleven
  - b. Turbo kit equipped cars
  - c. Any highly modified Elise or Exige that does not fit into any other class

\*refer to CUP class

\*\*\*If your car does not fit into the above classing please contact us to find a spot.

## Allowed Modifications:

### Stock

- Motor must remain Naturally aspirated
- Single throttle body must be retained
- Air box may be modified forward of MAF
- Exhaust system may be modified after stock header/manifold
- Rear panel may be eliminated
- Motor must remain stock
- Original ECU must be retained. Piggyback ECU is not allowed.
- Original ECU tune may be modified
- Shifter must remain stock
- Clutch may be modified
- Flywheel must be stock
- Transmission gearing must remain stock
- Final drive gearing must remain stock
- Original brake calipers must be retained in stock location
- Brake pads may be modified
- Suspension may only be modified to LSS Track Pack single adjustable
- Wheel spacers are not permitted
- Tires must be R888, A048 or similar street grooved tire unshaved. Hoosier, Kumho or similar track tires with circumferential grooves are not allowed.
- Tires must remain stock sizes
- Wheels must remain stock sizes
- Aerodynamic modifications allowed:
  - Splitter- may be carbon but must not exceed size of stock exige
  - Wing- may be carbon but must not exceed size of stock exige
- Passenger Seat must remain intact
- 1950 lb minimum race weight **\*\*see below**

### Modified

- Air box, intake and MAF may be modified
- Exhaust system may be modified
- Rear panel may be eliminated
- Motor and internals may be modified while staying under 2.1 liters
- ECU is Free for tuning and an external ECU may be used
- Motor must remain Naturally Aspirated
- Shifter modification is allowed
- Close ratio transmission upgrades are allowed
- Final Drive gear changes are allowed
- Brake system modification is allowed.
- Shock absorber and spring rate modification is allowed

## **MODIFIED CLASS CONTINUED:**

- Wheel and tire diameter is open
- Wheel arches are permitted
- Tire and wheel sizing is open as long as tire or wheel does not protrude from fender well or arch when looked at from above
- 1750 lb minimum race weight S2 cars, 1600 lb Minimum race weight S1 cars\*\***see below**
- Aerodynamic modifications:
  1. Splitter must not protrude more than 5" from both the side and front of bumper
  2. Wing may not be higher than roof of car
  3. Diffuser must not protrude more than 5" behind rear bumper or extend wider than wheel arches
  4. Roof may be modified for less drag or more flow to motor with a scoop
  5. Rear hatch may be modified for less drag
  6. Side skirts or bottom tray modification is allowed as long as tray does not protrude out past tires
  7. Front clam may be modified below headlamp line for brake cooling duct mods
  8. Side scoops may be modified for engine cooling without widening original body holes
  9. Fender liners may be removed
  10. Canards may be used

## **Forced Induction**

- Power is limited to 244 whp max:
  1. Any FI car with 245-260 whp will compete in CUP class while adhering to all other FI rules.
- Single throttle body must be retained
- Air box may be modified forward of MAF
- Exhaust system may be modified
- Motor must remain 1.8 liters
- Original ECU tune may be modified
- Piggyback ECU is ok
- Shift kits are permitted
- Sequential shifters are not permitted
- Clutch may be modified
- Flywheel may be modified
- Transmission gearing must remain stock
- Final drive gearing must remain stock
- Brakes may be modified
- Shock absorbers and springs may be modified
- Wheel diameter is open
- Wheel width must not exceed 8"
- Tire Width must not exceed 245
- Wheel arches are not permitted
- Tires must be R888, A048 or similar street grooved tire unshaved. Hoosier, Kumho or similar track tires with circumferential grooves or slicks are not allowed.

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- Aerodynamic modifications:
  1. Splitter must not protrude more than 5" from both the side and front of bumper
  2. Wing may not be higher than roof of car
  3. Diffuser must not protrude more than 5" behind rear bumper or extend wider than wheel arches
  4. Roof may be modified for less drag or more flow to motor with a scoop
  5. Rear hatch may be modified for less drag
  6. Side skirts or bottom tray modification is allowed as long as tray does not protrude out past tires
  7. Front clam may be modified below headlamp line for brake cooling duct mods
  8. Side scoops may be modified for engine cooling without widening original body holes
  9. Fender liners may be removed
  10. canards may be used
- 1900lb minimum race weight S2 cars, 1600 lb Minimum race weight S1 cars\*\*see below

## Cup:

- Power is limited to 244 WHP for all Cup class cars except for FI exceptions
- 1. The only exception is an FI car that produces 245-260 WHP will compete in cup class while governed by all FI rules.
- Single Throttle body must be retained
- Air box may be modified forward of MAF
- Exhaust system may be modified
- Original ECU tune may be modified
- Clutch may be modified
- Flywheel may be modified
- Sequential shifters are not permitted
- Brakes may be modified
- Close Ratio Gears are allowed
- Final drive gearing changes are allowed
- Shock and springs are open
- Wheel diameter is open
- Wheel width must not exceed 8"
- Tire Width must not exceed 245
- Tires are open
- Aerodynamic modifications:
  1. Splitter must not protrude more than 5" from both the side and front of bumper
  2. Wing may not be higher than roof of car
  3. Diffuser must not protrude more than 5" behind rear bumper or extend wider than wheel arches
  4. Roof may be modified for less drag or more flow to motor with a scoop
  5. Rear hatch may be modified for less drag
  6. Side skirts or bottom tray modification is allowed as long as tray does not protrude out past tires
  7. Front clam may be modified below headlamp line for brake cooling duct mods
  8. Side scoops may be modified for engine cooling without widening original body holes
  9. Fender liners may be removed
  10. Canards may be used
- 1900 lb minimum race weight \*\*see below

## Ultra Stock

- Lotus based engine must be used
- Lotus based Transmission must be used
- Lotus body style must be used
- All other modifications are open

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**\*\* Race Weight Definition:** Actual “minimum race weight” should be the MINIMUM weight your vehicle will ever achieve on the track MINUS driver weight with race gear. This will be measured at random directly after a run session by the LCS multiple times during season.

**The Race committee has the absolute right to re -classify any car in the interest of competition.**

**Any questions or concerns should be directed to the Lotus Challenge Series committee.**

### **Eligibility for the Lotus Challenge Series Time Trials:**

- Car must fit into a class above
- Driver must sign up at [www.lotuschallengeseries.com](http://www.lotuschallengeseries.com) prior to signing up with the hosting organization for the event
- Driver must have 6 track days experience
- Driver must be in good standing with the LCS and any hosting organization for the event
- Driver must have amateur status to compete in the LCS. Any driver who has won money or taken a salary for racing may not compete in the LCS without approval of the LCS committee 10 days prior to the event to determine if the driver can compete. The LCS committee will rule in fairness of competition and all involved on a case by case basis.
- Driver must run numbers from the approved LCS supplier
- All releases & Documentation must completed prior to the start of the event in order to participate
- Car must have a minimum of a 4 point harness for the driver; 5 is recommended
- Car must have at least a 2.5 lb charged fire extinguisher mounted in cockpit
- At two day events, the driver must pay for and attend both days as well as run numerous laps on the track BOTH days prior to the time trial to be eligible for prizes
- At single day events the driver must run multiple laps on the track PRIOR to the Time Trial
- Any driver with 2 or more 4 wheel “offs” at an event will NOT be permitted to run in the Time Trial
- Any driver with 3 or more 2 wheel “offs” at an event will NOT be permitted to run in the Time Trial

### **Prizes:**

- Prizes will be awarded in all classes up to 3<sup>rd</sup> place for a full class
- If a class has 3 or less participants the prizes will be modified as follows
  - 3 participants in a class will yield 1<sup>st</sup> and 2<sup>nd</sup> place prizes
  - 2 participants in a class will yield a 1<sup>st</sup> place prize only
  - 1 participant in a class will not be eligible for prizes
- It is at the sole discretion of the LCS committee to award leftover prizes as they see fit.

## **Challenge Class Wheel to Wheel Worksheets**

### **About these worksheets:**

- 1. These sheets are to be filled out and submitted to the LCS in order to provide fair and competitive racing in the Challenge Classes.**
- 2. The adjusted power to weight ratio for each vehicle will be checked a minimum of once per season at an ANNOUNCED event. The LCS may also require random weigh in and dyno runs to confirm vehicle classing.**
- 3. Should a participant miss an event where a weigh in and Dyno run was performed, they will be responsible for securing their own Dyno run at an authorized Dyno center approved by the LCS.**
- 4. If the classing of a vehicle is contested by another driver IN THE SAME CLASS the LCS has the right to impose a weigh in AND dyno verification on BOTH the contester AND contested prior to distribution of any prizes or final results.**
- 5. All Dyno Verifications will be at the racers expense at an approved facility offering an LCS racer price. Three (3) runs on dyno must be done within 60 minutes of each other at facility and all three runs must be supplied with the worksheets to the LCS.**
- 6. Any Modifications that will change the power or weight of a vehicle enough to move that vehicle into another class MUST be disclosed to the LCS PRIOR to the next event after modification. At that time the LCS will decide based on participants prior adjusted power to weight ratio if new dyno verification and or weight check is necessary. If you have any doubt or question about your classing and modifications please ask.**
- 7. Anyone falsifying their Worksheets or found influencing the power to weight ratio of their vehicle in order to benefit from false classing will be disqualified from that event and banned from racing with the LCS in ANY future events and forfeit any outstanding prizes owed delivery.**

### **How to fill out these worksheets:**

- 1. Fill in racer info.**
- 2. Fill in test facility info.**

3. Fill in Chassis Dyno WHP from the most powerful of **THREE** runs within a 60 minute period.
4. Fill in vehicle weight including **YOUR** weight, **FUEL** remaining after a race, All equipment that will be on you and in car during the race. (We will be scaling vehicles at events if you do not have the ability to weight vehicle yourself). Actual “minimum competition weight” should be the **MINIMUM** weight your vehicle will ever achieve on the track. This will be measured at random directly after the race and/or practice at impound by the LCS multiple times during season.
5. Divide WHP from Dyno by vehicle weight and fill in the **UNADJUSTED power/weight ratio**. This ratio will be in a X.XX:1 form and will be used to balance out your vehicle to achieve a classification.
6. Fill out the Modification Adjustment sections as applicable to your vehicles modifications placing the values to be added or deducted in the right hand column.
7. Total the Modification Adjustments from the right hand column.
8. Figure out your vehicle weight adjustment value from the charts. This figure will be added or subtracted in the next step so make sure it is in + or – form.
9. Add all **RED** calculations to find your **Adjusted Power/Weight Ratio**. (Unadjusted Power/Weight) + (Modification adjustments) + (Weight Value) = Adj. Power/Weight
10. Fit your car into one of the three challenge classes by Adj. Power/Weight.
11. Submit all classing docs to LCS.

The Challenge Classes are made up of three classes based on an adjusted power to weight ratio of the race ready vehicle and driver.

Adjusted Power to weight ratio per class are as follows:

**Challenge 1: Power/weight ratio equal to or greater than, 6.60:1**

**Challenge 2: Power/weight ratio equal to or greater than, 9.80:1**

**Challenge 3: Power/weight ratio equal to or greater than, 13.0:1**

### Racer’s Info:

Name \_\_\_\_\_ Date \_\_\_\_\_

Region      NE      SO      SE      SW

Car Number \_\_\_\_\_ Car Color \_\_\_\_\_

Car: Year \_\_\_\_\_ Model \_\_\_\_\_

Does this vehicle have a cockpit adjustable engine management system? \_\_\_\_\_

**Test Facility Info:**

Dyno Facility Name: \_\_\_\_\_

Dyno test conditions:

SAE correction \_\_\_\_\_

Temperature \_\_\_\_\_

Humidity \_\_\_\_\_

Barometric Pressure \_\_\_\_\_

**Dyno and Weight:**

Chassis Dyno WHP (Must use an LCS approved Dyno) \_\_\_\_\_

Minimum Competition Weight \*\* (car, fuel, driver, gear, ballast) \_\_\_\_\_

**\*\* Actual "minimum competition weight" should be the MINIMUM weight your vehicle will ever achieve on the track. This will be measured at random directly after the race and/or practice at impound by the LCS multiple times during season.**

**Unadjusted power/weight ratio (Comp. Weight /WHP) \_\_\_\_\_**

**Modification Adjustments:**

Non-synchromesh transmission, subtract 0.2 - \_\_\_\_\_

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Sequential/Tiptronic-like/paddle shift/semi-automatic, subtract 0.2 - \_\_\_\_\_

Non-DOT approved tires, subtract 0.75 - \_\_\_\_\_

DOT approved Race tires without street grooves (hoosier, Kumho) subtract .2 - \_\_\_\_\_

Tire size of widest tire is 245mm or less, add 0.8 + \_\_\_\_\_

Splitter, wing, diffuser, canards, side sills or under trays mods, subtract .2 - \_\_\_\_\_

**Modification Adjustments** **= \_\_\_\_\_**

## Vehicle Weight Adjustment Value:

If your Competition Weight is **between** 2051 and 2149 lbs, add **0** below as your weight value.

If the Minimum Competition Weight is **greater** than 2149 lbs, find the weight on the table below and enter it for your weight value below. The values in the below chart are all **POSITIVE**.

2150-2199	.05	2250-2299	.15	2350-2399	.25	2450-2499	.35
2200-2249	.10	2300-2349	.20	2400-2449	.30	>2500	.40

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If the Minimum Competition Weight is **less** than 2051 lbs, find the weight on the table below and enter below for the weight value: The values in the below chart are **NEGATIVE**.

2050-2001	-.05	1850-1801	-.25	1650-1601	-.45	<b>&lt;1450</b>	-.65
2000-1951	-.10	1800-1751	-.30	1600-1551	-.50		
1950-1901	-.15	1750-1701	-.35	1550-1501	-.55		
1900-1851	-.20	1700-1651	-.40	1500-1451	-.60		

**Weight Value from above: \_\_\_\_\_ (either + or – form)**

## Compute the Adjusted Power/ Weight Ratio:

The values for this step will come from the **RED** totals you filled in above:

(Unadjusted Power/Weight) + (Modification adjustments) + (Weight Value) = Adj. Power/Weight

\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

**Adjusted power/weight Ratio = (enter from calculations above) \_\_\_\_\_**

*Challenge 1: Adjusted wt/power ratio equal to or greater than, 6.60:1*

*Challenge 2: Adjusted wt/power ratio equal to or greater than, 9.80:1*

*Challenge 3: Adjusted wt/power ratio equal to or greater than, 13.0:1*

Notes:

### Dynamometer Testing

A certified Dyno report consists of three separate, reproducible Dyno tests with SAE correction. The highest peak horsepower number of the three tests will be used as the official certified horsepower for weight to horsepower calculations. A smoothing factor up to five (5) is permitted. Dynamometer tests must be conducted by a commercial facility that offers dynamometer testing as part of their business and is open to the public. Dyno testing facilities must be approved by the LCS.

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If max torque is greater than max WHP: Minimum Competition Weight divided by the average of max WHP and max torque. The whp and torque of each dynamometer run will be averaged and then the dynamometer run with the highest average will be used in the weight to power ratio calculation.

### Car Weight:

All weights will be measured to the tenth of a pound (xxxx.x), then rounded off to the nearest pound for all calculations. Any weight ending in “.5” or greater (xxxx.5x) will be rounded up.

### Cockpit Adjustable Engine Management Systems

All adjustable engine management systems must be declared on the Challenge Class worksheets and tested in the highest power mode. Failure to do so will result in disqualification of all timed sessions for the weekend. Adjustable engine management systems include but not limited to; off-the-shelf systems such as Motec or EFI that can upload and download from external computers, potentiometers, diodes and switches that can alter signals from engine sensors, factory installed devices such as traction control that changes engine performance when non-drive wheels are stationary.

Any modification is allowed as long as the car meets all safety regulations.

All cars must use an engine and transmission that is available from Lotus.