

**2015**

***So-Cal Sprinters Kart Club***



*Club of Champions*

***52<sup>st</sup> Anniversary Season***

**Rules and Race Day Procedures**

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**THANK YOU FOR JOINING AND RACING**  
**With the**  
**SO-CAL SPRINTERS**  
**The CLUB OF CHAMPIONS**

**MISSION STATEMENT**

**The So-Cal Sprinters Kart Club is dedicated to the promotion of karting as a friendly competition motor sport, for the pleasure of the entire family.**

***Come race with us***, at the world famous Adams Motorsports Park. This track is well known for its fourteen turns (two are banked) and 700 foot straight. We race **RAIN OR SHINE** on our scheduled race days. See our website for the 2015 schedule and updates at [www.so-calsprinters.com](http://www.so-calsprinters.com)

Adams Motorsports Park is located at 24<sup>th</sup> and Market Street in Riverside, California.  
(909) 686-3826 [www.adamsmotorsportspark.com](http://www.adamsmotorsportspark.com)

**SO-CAL SPRINTERS**



*Club of Champions*

**WWW.SOCALSPRINTERS.COM**

**2015 CLUB OFFICERS**

**BOARD MEMBERS**

**President:** Mike Bowers  
[President@so-calsprinters.com](mailto:President@so-calsprinters.com)

To be determined.

**Vice President:** Troy Adams  
[VicePresident@so-calsprinters.com](mailto:VicePresident@so-calsprinters.com)

**Treasurer:** John Wallace  
[Treasurer@so-calsprinters.com](mailto:Treasurer@so-calsprinters.com)

**Secretary:** Wendy Bowers  
[Secretary@so-calsprinters.com](mailto:Secretary@so-calsprinters.com)

**Membership:** Terry Nash  
[Membership@so-calsprinters.com](mailto:Membership@so-calsprinters.com)

**Tech Director:** Ralph Doner  
[TechDirector@so-calsprinters.com](mailto:TechDirector@so-calsprinters.com)

**Editor:** Bree Bowers  
[Editor@so-calsprinters.com](mailto:Editor@so-calsprinters.com)

***The So-Cal Sprinters Board meets the first Tuesday of each month at 7:00 PM. Please check the club web site at Eddie's Pizzeria and Eatery 1065 W Foothill Blvd, Claremont, CA 91711 (909) 398-1985***

## ABOUT SO-CAL SPRINTERS

**SO-CAL SPRINTERS KART CLUB** - The “Club of Champions” was originally called the Roadrunners’ in the 60’s during the early years of karting. The Roadrunners home track was the famous K & P Raceway in Azusa, California. This is where karting started in the United States. Duffy Livingston and Art Ingles’ shops were only minutes away. For a brief time in the early 70’s, **So-Cal** raced at the 605 Speedway in Irwindale, California. This year, **So-Cal** celebrates 52 years of karting fun.

**Street Races** - **So-Cal** has presented kart racing to thousands of spectators by hosting many street races. These street races were held in Redlands, the Orange Show, Rialto Airport and La Verne. Many racecar drivers began their racing careers with the “Club of Champions”. Some of these drivers are Memo Gidley, Brian Herta, Page and PJ Jones, Tim Woods and Brandon Ash as well as many others.

**Indy 500** - **So-Cal** and Adams are very proud to have had several of its members race in the Indianapolis 500. Richie Hearn, Alex Barron, George Mack and many others started their racing careers on this famous and challenging track.

**Public Address System** - **So-Cal** Uses a PA system. It is the Racer’s responsibility to be present on the Grid for all race day practices and race heats with the appropriate race group/class.

**Home Track** - **So-Cal Sprinters** home track is, the famous Adams Motorsports Park in Riverside, California. Adams is 7/10 mile in length and is famous for its 14 turns and 700-foot straight. As many as eleven different classes are contested over a nine (9) race season. Some classes are combined into race groups so we can race a 9 to 12 group race day. **So-Cal Sprinters** offer race classes in both 2-cycle and 4-cycle classes.

**Transponder Scoring System** - The club utilizes transponder scoring. The **AMB** scoring system provides time and finishing place information. The club also provides real time lap times and position via an I-Card output signal that is displayed at the base of the scoring tower and i-Card handheld devices. For those that do not own an AMB transponder, rentals are available from So-Cal Sprinters at the track on race day for \$10.00.

**Entry Fee & Membership** - **So-Cal club** members enjoy the added benefits. Membership is from January 1 through December 31. **So-Cal** annual membership fee is \$50. **So-Cal** member race entry fee is \$80. The non-member fee is \$90. Entry fee for a second class is \$50. So-Cal recommends that members pre-register at a reduced fee of \$70. Pre-registrations must be received by the Wednesday before the race. With your **So-Cal** racing membership you will receive a club T-shirt, rulebook, membership

card, reserved kart number, and entitlement to serve on the board of directors and/or to be elected as a club officer. All memberships include voting rights.

**Non-Racing & Associate Memberships** - Non-Racing and Associate **So-Cal** memberships are \$20, unless there is a driver member in the same household for which there is no charge. Non-Racing members and Associate members are eligible to vote and serve as Board members and Club Officers.

**Membership Application** - Membership application can be found on the **So-Cal** web site or at the Registration Booth, and at the Presidents table on race days. Minors must submit Proof of Age (POA) with their membership application. Acceptable POA includes: Birth Certificate, Passport, Driver's License, and State Issued ID.

**Drivers under 18 Years of Age** – Non-members must be prepared to show POA during the race day if requested by a Race Official. Acceptable POA includes: Birth Certificate, Passport, Driver's License, and State Issued ID. A parent or guardian must also complete and sign a minor's release each race day. Minor releases are available at the Registration Booth and [www.socalprinters.com](http://www.socalprinters.com).

**Kart Racing Numbers** – Must be on all four (4) sides of the kart. Up to three digit numbers are acceptable. Kart numbers may not include letters. If you switch classes your number may have already been taken in the new class.

**Year End Awards** - To be eligible for So-Cal Sprinters Championship Year End Awards, drivers must be a member In Good Standing and participate in a minimum of six (6) races in each separate class they race. **To be eligible for year-end awards and have the points count for the first two races, you must become a member or renew by third race.**

**Safety** – So-Cal uses the safety procedures for karts and safety equipment outlined in the current year IKF Competition Regulations and Technical Manual, Section 105. Please read and understand this very important section. Safety equipment may be inspected at any time during the racing season.

**Points - So-Cal** uses the IKF National Points Schedule published in section 800 in the current year IKF Competition Regulations and Technical Manual. Also see So-Cal 2015 Race Day Procedures, How Points Are Accrued, on Page 19. **So-Cal** uses the IKF rulebook as a supplement to the club rules. In the case of a conflict, the **So-Cal** rules prevail.

**Race Day Procedures** - So-Cal has established Race Day Procedures that align more closely with local club racing than with Regional or National kart racing. These procedures, coupled with IKF rules regulate So-Cal races. It is strongly recommended that each driver purchase an IKF Rule Book. **In the case on conflict between Club and IKF rules, Club rules prevail.**

**IKF Membership** - Membership in IKF is not a prerequisite to membership in **So-Cal Sprinters**. IKF membership information is available at: International Kart Federation; 1609 South Grove Av. Suite 105; Ontario, Ca. 91761; 909-923-4999; [www.ikfkarting.com](http://www.ikfkarting.com)

## Race day information

**So-Cal race days** start with a drivers' meeting. This meeting location is determined by the Race Director and announced prior to the meeting. The on-track activities begin at the conclusion of the drivers meeting. There are two 4-5 minute practice sessions for each race group and one 5 lap minute session for each race group. Qualifying position for the first race of the year is determined by a random draw. For the remainder of the year, qualifying order will be determined by point's standings. Qualifying is followed by a 10 lap Pre Main for each race group with starting position determined by qualifying times. The Pre-Main is followed by a sixteen lap Main for each race group with starting position determined by finish position in Pre-Main. Kid Karts run 8 lap Pre-Main and a 12 lap Main. The Race Director shall have the final authority to change the number of laps in a race based on the circumstances at the time of the race.

**Points** - To earn points for the day, you must take at least one green flag in qualifying, the pre main, or main event as well as going through the Scales and Post Tech. Your finishing position in the Main and the number of karts entered in your class determines the points you earn for the day. Points are calculated as per IKF National Points Schedule published in section 800 of the current year IKF Competition Regulations & Technical Manual and on pages 18, 19 and 20 of the 2015 **So-Cal** Race Day Procedures.

**Weighing** – Racers are required to weigh after each track session (Qualifying, Pre Main, or Main). If the racer does not weigh after a track session, the racer will not receive points for that race (Qualifying, Pre-Main or Main), will be disqualified, and will be required to start the next session at the back of the race group.

**Disqualifications (DQs), Points and Championships** - There are several types of disqualification (DQs). See **So-Cal Race Day Procedures, Race Directors Duties, pages 14 and 15**. Some disqualifications will earn no points for the day. Other DQ's will only earn points earned. Your best eight (8) of nine (9) races will count toward the **So-Cal** Sprinters Championship. You must race at least 6 races as a **So-Cal** member in good standing to be eligible for a **So-Cal Class Championship**. If any races are canceled or dropped, the requirements for awards/trophies will be adjusted accordingly.

## SO-CAL SPRINTERS 2015 RACE CLASSES

CLASS	AGE	WT.	ENGINE	EXHAUST	CLUTCH	FUEL	TIRES	SPEC GEAR	RACE GROUP
Kid Kart Comer	5 to 7	150#	Comer C50/C51 <sup>(12)</sup>	Spec (IKF)	Stock OEM (IKF)	VP MS98 + Oil ①	Vega FH Blue 4.6/4.6 spec	10 driver 89 driven	A
Kid Kart Honda	5 to 7	160#	Honda GX50 <sup>(12)</sup>	Stock OEM	Spec (Honda/RLV)	VP MS93 ①	Vega FH Blue 4.6/4.6 spec	15 or 16 driver 89 driven	B
Rotax Micro Max TAG	7 to 11	235#	Spec Engine per ROTAX USA <sup>(12)</sup>	Spec (ROTAX USA)	Stock OEM (ROTAX USA)	VP MS93 + Spec Oil ②	ROTAX USA spec ⑦	ROTAX USA spec ⑧	C
KPV-1	8 to 11	240#	KPV <sup>(12)</sup>	KPV-1 (IKF)	Komet Drum (IKF)	VP MS98 + Spec Oil ②	SCS limited Tire Rule 4.5/10.0 <sup>(3)</sup>	N/A	D
Junior 1	8 to 11	225#	Comer K80 <sup>(12)</sup>	Spec (IKF)	Stock OEM (IKF)	VP MS98 + Spec Oil ②	SCS limited Tire Rule 4.5/10.0 <sup>(3)</sup>	N/A	E
Rotax Mini Max TAG	10 to 13	290#	Spec Engine per ROTAX USA <sup>(12)</sup>	Spec (ROTAX USA)	Stock OEM (ROTAX USA)	VP MS93 + Spec Oil ②	ROTAX USA spec ⑦	ROTAX USA spec ⑧	F
Jr. 2 PRD TAG Controlled	12 to 15	310# to 330#	PRD OEM <sup>(11)(12)</sup>	PRD OEM as supplied	PRD OEM as supplied	VP MS98 + Spec Oil ②	Vega FH Blue 4.6/7.1 spec	11 Driver - 77 +/- 1 Driven	G
KPV-2	12 to 15	310#	KPV <sup>(12)</sup>	KPV-2 (IKF)	Komet Drum (IKF)	VP MS98 + Spec Oil ②	SCS limited Tire Rule 4.5/10.0 <sup>(3)</sup>	N/A	H
SR. TAG	16 & Up	Per IKF <sup>(9)</sup>	Spec Engine per IKF <sup>(12)</sup>	Spec IKF <sup>(9)</sup>	Stock OEM (IKF)	Spec IKF <sup>(2)</sup>	SCS limited Tire Rule 4.5/10.0 <sup>(3)</sup>	Spec IKF	I
ROTAX MASTERS	16 & Up	ROTAX <sup>(10)</sup>	Spec Engine per ROTAX USA <sup>(12)</sup>	Spec (ROTAX USA)	Stock OEM (ROTAX USA)	VP MS93 + Spec Oil ②	ROTAX USA spec Mojo D2 4.5/7.1	ROTAX USA spec	J
SR. PRD TAG CONTROLLED	16 & Up	360# to 380#	PRD OEM <sup>(11)(12)</sup>	PRD OEM as supplied	PRD OEM as supplied	VP MS98 + Spec Oil ②	Vega FH Blue 4.6/7.1 spec	11 Driver - 80 +/- 1 Driven	k

NUMBERED CIRCLE INDICATES CLASS "FOOTNOTE", SEE LAST PAGE.

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## SO-CAL SPRINTERS 2015 RACE CLASSES

CLASS	AGE	WT.	ENGINE	EXHAUST	CLUTCH	FUEL	TIRES	SPEC GEAR	RACE GROUP
<b>100 CC COMBINED</b>	16 & Up	360#	KPV <sup>(12)</sup>	KPV-3 <sup>(4)</sup>	<sup>(5)</sup>	VP MS98 <sup>(2)</sup>	<sup>(3)</sup>	N/A	<b>L</b>
		390#	KPV <sup>(12)</sup>	KPV-4 <sup>(4)</sup>	<sup>(5)</sup>	VP MS98 <sup>(2)</sup>	<sup>(3)</sup>	N/A	
		340#	YAMAHA KT-100 <sup>(12)</sup>	KPV-3 <sup>(4)</sup>	<sup>(6)</sup>	VP MS98 <sup>(2)</sup>	<sup>(3)</sup>	N/A	
		380#	YAMAHA KT-100 <sup>(12)</sup>	KPV-4 <sup>(4)</sup>	<sup>(6)</sup>	VP MS98 <sup>(2)</sup>	<sup>(3)</sup>	N/A	
		380#	YAMAHA KT-100 <sup>(12)</sup>	YAMAHA "Y" PIPE	<sup>(6)</sup>	VP MS98 <sup>(2)</sup>	<sup>(3)</sup>	N/A	
		305#	YAMAHA KT-100 <sup>(12)</sup>	4-HOLE CAN, IKF SPEC.	<sup>(6)</sup>	VP MS98 <sup>(2)</sup>	<sup>(3)</sup>	N/A	
<b>4 - STROKE COMBINED</b>	16+	390#	ANIMAL HEAVY <sup>(12)</sup>	SPEC IKF	SPEC IKF	VP MS98	<sup>(3)</sup>	N/A	<b>M</b>
	40+	370#	ANIMAL MTRS HVY <sup>(12)</sup>	SPEC IKF	SPEC IKF	VP MS98	<sup>(3)</sup>	N/A	
	16+	365#	W F MED <sup>(12)</sup>	SPEC IKF	SPEC IKF	VP MS98	<sup>(3)</sup>	N/A	
	16+	390#	W F HVY <sup>(12)</sup>	SPEC IKF	SPEC IKF	VP MS98	<sup>(3)</sup>	N/A	
	40+	390#	W F MASTERS HVY <sup>(12)</sup>	SPEC IKF	SPEC IKF	VP MS98	<sup>(3)</sup>	N/A	
	16+	360#	CLONE HVY <sup>(12)</sup>	SPEC IKF	SPEC IKF	VP MS98	<sup>(3)</sup>	N/A	
16+	370#	LO 206 HVY <sup>(12)</sup> <sup>(13)</sup>	SPEC IKF	SPEC IKF	VP MS98	<sup>(3)</sup>	N/A		
<b>JR-1 TAG COMBINED</b>	8 to 12	240# to 260#	JR-1 PRD SPEC TAG	SPEC PRD	SPEC PRD	VP MS98 <sup>(2)</sup>	SPEC PRD	SPEC PRD	<b>N</b>
	8 to 12	265#	VORTEX MINI ROC IAME MINI SWIFT					Further specifications forthcoming. Further specifications forthcoming.	

### CLASS RULES AND STRUCTURES

• The above classes represent SO-CAL SPRINTERS KART CLUB championship classes. Additional race groups and accommodations for other classes may be added at the discretion of the SCS RACE DIRECTOR if these drivers register to race. All the above if added must pass SCS personal and kart technical safety standards. SCS Board of Directors reserve the right to add or delete classes based on driver participation.

• **HELMETS AND PERSONEL SAFETY EQUIPMENT:** All equipment must meet current SCS, IKF, SKUSA and ROTAX safety standards. Said equipment may be inspected at any time.

• **DRIVER AGE:** (Summarized from IKF rulebook.)

• Class listing indicate allowed ages in each class. • KID KART classes are listed with ATTAINED AGE • The only exception is the Option Year.\*

Option Year\* The option year is designed to give Junior drivers the flexibility of class due to variances in driver weight and/or ability. Drivers that become 8, 12 or 16 during the calendar year have the option of moving to the next higher class any time during the year. If the driver races in a higher age class the driver **CAN NOT** move back to the lower age class. If the driver races in a higher age class in an event, the driver must race in the higher age class for all entered events.

# SO-CAL SPRINTERS 2015 RACE CLASSES

## CLASS FOOTNOTES

- ① Fuel is supplied by So-Cal Sprinters (COMER: VP MS98/Burris Blend. HONDA VP MS93.) at the grid for qualifying, semi-main and main events. Fuel tanks will be pumped dry after each race at tech station at tech's discretion.
- ② Spec blend oils for 2-stroke classes: **SCS- Burris Castor, Burris Blend** or **Motul 800 2T**. **SKUSA: Motul Grand Prix. ROTAX: Rotax XPS.** NOTE: Oil types may not be mixed during race day.
- ③ SCS Limited Tire Rule. The following tire brands are permitted in any class utilizing SCS Limited Tire Rule. NOTE: Karts must use the same brand and compound on all four (4) wheels for race day.
  - HOOSIER R60
  - MG-SK WHITES **NOTE: ONLY FOR SR. TAG CLASS.**
  - BRIDGESTONE YKC/YLC
  - MOJO D2
  - VEGA FH BLUE
  - OTHER BRANDS: With similar compounds to the above tires; providing Race Director & Tech. approval.
- ④ Any HORSTMAN or RLV expansion chamber with or without welded ends. Flex pipe lengths to correspond to chamber type. All subject to IKF specs.
- ⑤ Approved Clutches: Horstman/Komet disc. Komet drum, any style. All subject to applical IKF spec.
- ⑥ Approved Clutches: Any brand, disc/drum, wet/dry. ALL must be equipped with an outboard bearing. No direct drives are allowed. All clutches subject to IKF specs.
- ⑦ ROTAX Micro/Mini Max USA Tires: Dry- MOJO D1. Wet- MOJO W2
- ⑧ ROTAX Micro/Mini Max Gearing: Per ROTAX spec.
- ⑨ IKF Senior TAG weights per engine package:
  - PARILLA LEPORD 355#
  - LEPORD /09 355#
  - MOTORI SEVEN 370#
  - VORTEX ROK TT 375#
  - ROTAX 355#
  - PRD 345#
- ⑩ ROTAX Masters weights: 16+ (Driver must weight minimum of 190#.), otherwise 32+. Total all up kart weight- 405#.
- ⑪ PRD engine package subject to IKF/RLV specs.
- ⑫ Airboxes : Are required on all 2-stroke classes. 4-stroke classes require an air cleaner. Spec classes may require both.
- ⑬ ●Engine must be equipped with a billet flywheel as per IKF 722.15. ●Clutch to conform to IKF 722.2.2 (No jackshaft or axle clutches allowed.).

## Transponders

You will be asked to leave your Driver's License as security for your rented transponder. If you do not have a Driver's License the Transponder Official will determine an adequate security substitute. **REMEMBER TO RETURN YOUR RENTED TRANSPONDER AFTER YOUR MAIN EVENT.** Verify that your transponder number is correct on your Registration Form and your Tech Card (or Cards if you are racing in more than one class). If you are racing in more than one class, So-Cal Sprinters recommends you place a separate transponder on each kart. ***The Official Scorer is not responsible for hand timing and scoring karts without working transponders.***

**TRANSPONDERS ARE REQUIRED FOR PRE-TECH INSPECTION AND DURING ALL ON-TRACK SESSIONS AND RACES**

### MOUNTING INSTRUCTIONS

Note: Transponder will be placed per CIK regulation on the back of the seat at a height of 25cm +/- 5cm. Rented transponders must be mounted with AMB bracket to the kart. Transponder brackets are available for purchase at the transponder table.

**Do not lend your transponder to another driver**

***You are responsible for mounting your transponder and verifying that it is working correctly. If your transponder has a problem, see our tech people.***

**Return rented transponders to club official in the scale area after weigh-in at the end of the Main Race. At that time, Driver's License or any security item will be returned. All transponders must be returned undamaged and in working condition or the racer will be charged for replacement. Replacement fee is \$300.**

## RACE DAY PROCEDURES

1. **PRE-REGISTRATION** - Pre-registration forms are located in Registration Booth, and on the **So-Cal** web site. To save time and money in registration, the club suggests drivers PRE-REGISTER by mail. Drivers that are PRE-REGISTERED should pick up their envelopes at the Pre-Registration window. Each driver will be required to sign the insurance waiver in the PRE-REGISTRATION packet. Paid wristbands for late arrivals of pit crew or spectators will be held in will-call at Registration.
2. **RACE DAY REGISTRATION** - If you have NOT PRE-REGISTERED, park in the pit area. If you do not have a transponder, you must rent one. Before getting in line at Registration, please complete an Entry Form and Minor Release, if needed, at the signup table. Your race number for the day will be verified in Registration. During Registration the entry form will be checked and it will be verified that your kart number does not conflicts with another kart number in your race group. **So-Cal** members have reserved numbers. Duplicate numbers in the same race group are not permitted. **DRIVER REGISTRATION CLOSES** at the start of qualifying.

3. **PIT PASSES AND INSURANCE – *Everyone entering the pit area is required to have a pit pass regardless of age or the length of time staying in the pit area.*** Pit passes are \$10. Pit passes are available at the Registration Booth. Minors up to age four (three years old and younger) are admitted free when accompanied by a parent. The snack bar and spectator areas are FREE. Drivers are covered by insurance when they purchase a Driver's Pass. All others are covered by insurance when they purchase a Pit Pass. Individuals without a Pit Pass in the pits will be escorted out of the pits and the driver you are with may be disqualified. **So-Cal does not have in-out pit passes.** Should a guest of a driver need to get in contact with a driver, the guest can inform the Registration Booth and they will contact the announcer. The announcer will page the driver over the public address system to go to Registration.
4. **SAFETY EQUIPMENT** - So-Cal follows the safety procedures for karts and safety equipment outlined in the current IKF Technical Manual, Section 105 as closely as possible. **Please read and understand this very important section.** Chest protectors meeting the SFI specification 20.1 are now **mandatory** for all drivers ages 12 and under. So-Cal Sprinters strongly recommends the use of chest protectors by all drivers. All karts and safety equipment must pass pre-tech before they can enter the track. **Karts must be presented to Pre-Tech race ready with transponders mounted.** Pre-tech will be in the scale area.
5. **ACCESS TO LOWER PITS –** Vehicle access to the lower pits closes at the start of practice. Vehicles in the lower pits must remain in lower pits until after the last checkered flag for the last race of the day has been displayed. No headlights on any tow vehicle until in upper pits. This is a safety consideration and out of respect to drivers and pit personnel that are racing and using the pits and scale areas. This area is often very congested with kart stands and karts. ***Violation of this rule will result in the driver associated with the vehicle being disqualified.***
6. **DRIVERS MEETING –** A mandatory Drivers Meeting is held on Grid A prior to the first practice. All drivers must attend. Pit crews are welcome as well. This meeting is very important. The Race Director and others will have announcements specific to the race day activities and schedule as well as general Club announcements. All juniors must have a parent or guardian present. The junior drivers will have an extra meeting after the Drivers' Meeting with a race official. The junior meeting place will be announced at drivers meeting. All novice, first time **So-Cal** drivers and all shifter drivers will also have an extra meeting with a race official. The meeting location will also be announced at the drivers meeting.
7. **PRACTICE ORDER** - Practice order will be posted on bulletin board at base of tower. **You Must Practice With Your Posted Group.** Scoring during your groups practice sessions will test transponders. Transponders **MUST** be mounted on your kart during all on-track sessions.
8. **RACE SCHEDULE** - The race day practice, qualifying and race schedule is the same as the race order. **It is your responsibility to know when your race group is due on the grid.** You must be on Grid B before the group moves to Grid A. When on Grid B, please remove your kart from the kart stand and remove stand from Grid B. No kart stands are allowed on Grid A. If you or a representative from your pit is not on Grid B with your kart when your group moves to Grid A, you will be placed in the back of the grid order. This includes Qualifying, Pre-Main and Main. **NO EXCEPTIONS.** If

you or your kart is unable to start, please notify the grid director.

9. **STARTS AND STARTING POSITION** - You cannot advance your Grid Position prior to the Green Flag unless directed to do so by the Race Director or Starter. The Race Director or Starter may signal you with a rolled yellow flag pointed at you, a pointing finger pointed at you or your kart number may be displayed on a board at starters stand. Look for these signals
10. **RE-STARTS** – In order to give all drivers to chance participate in their race, **So-Cal** allows re-starts as long as the driver has not taken the green flag. **So-Cal re-start policy is different than IKF restart rules.** It Is the Race Director or Starter’s decision to start or re-start a race. Their decision to start or re-start is not protest able.
11. **KART STALLS DURING THE PARADE LAP** - Should your kart stall on the parade lap, **THE DRIVER AND ONLY THE DRIVER** should safely push their kart back to Grid A or Grid B. Once in the Grid area, they will be allowed to restart by anyone with a starter. The driver has ninety seconds to re-start from the time the first kart in the race group has left Grid A. **NOTE:** If you re-start you will start the race at the back of the group.
  - **Grid A** is considered the area at the entrance to track from GRID A. **Grid B** is considered to be the area at base of the tower, in front of double gate, at the rear of GRID B. **These are the only areas that a driver can be re-started on the track.** Drivers **cannot** be re-started or receive help from any pit members, Corner Workers or race officials on the track during “green flag” conditions. Corner Workers can only help a driver after driver’s engine has quit and the kart is stopped on the track or the driver has been injured.
  - **NOTE:** Only “self-starting” karts are allowed to be re-started on the track after they have been given a green flag or the track is under green flag conditions. This must **ONLY** be done under safe conditions!
12. **EXITING TRACK** - If you break down on the track for any reason please pull or drive your kart well off the racing surface. After the checkered flag falls for your session or race, your pit crew can then go out to pick up your kart. **Do not forget to weigh when you return to the pits.** Anytime you exit the track, or are pulling into the pits, raise your hand and use caution. Proceed slowly to the scale and stop your engine. **ABSOLUTELY NO DRIVING ON SCALES.** Get out of your kart and push it onto the scales. After weighing, please push your kart off the scale and load kart on a stand out of the scale area. This eliminates congestion in scale area.
13. **DRIVER ONLY ALLOWED IN SCALE AREA** - Kart and driver must weigh after qualifying, pre-main, or main event. If for any reason you do not finish an event, you are still required to weigh. After you have qualified, raced in the Pre-Main or Main, **do not leave** the tech area until all required tech is completed or you have been told to leave tech area by a race official. If you have been notified that you report to the tech area for post-race inspection, only the driver and one pit crew member per kart are allowed in the scale and post tech areas.

14. **Any Driver Refusing Post Tech** will receive a **Class 2 DQ** and may be suspended from racing that class at So-Cal sprinters next race.
15. **CUTTING TRACK** - Cutting the track is not allowed during Practice, Qualifying, Pre-Main or Main Events. This disrupts the electronic scoring system and you may be issued a penalty. The only time a driver should cut the track is when an on-track official indicates by pointing a finger or a rolled flag (any color) to a driver that they should cut the track where directed.
16. **BREAK DOWN ON TRACK** - For everyone's safety, no pit crew or kart stands are allowed on the racing surface or infield while the track is under green flag conditions. If your kart should leave the racing surface for any reason during practice, qualifying or competition, and you cannot safely re-enter the track, please push your kart to a safe area well away from the racing surface, and wait until the session is completed. After the checkered flag is displayed, and your pit crew with a kart stand has picked up your kart, proceed immediately to the scale to weigh.
17. **ONLY AUTHORIZED PEOPLE ON TRACK** - Authorized personnel and race officials only are permitted to cross the track to the scoring area. **Authorized personnel and race officials only are permitted in the announcing tower.** Drivers and pit crews entering these areas are subject to disqualification and/or loss of points. The only exception to this rule is when any person with a starter re-starts a driver according to Re-Start Rules, page 13 in the So-Cal Race Day Procedures.
18. **RACE DIRECTOR DUTIES** - Due to the configuration of Adams Motorsports Park, signs, trailers and awnings sometimes prevent the Race Director from seeing the entire track. In these situations, the Race Director may need to rely on Assistant Race Director, Starter, Corner Workers, and So-Cal Board Members observations when considering a racing incident or pit situation.
- The Race Director's duty is to keep the day's events running in a safe, fair and timely manner. The Race Director shall be empowered to permit minor deviations from any of the specifications herein or impose any further restrictions that, in the Race Director's opinion, do not alter the minimum acceptable requirements.
  - In order to be fair to other competitors the Race Director may find it necessary to postpone acting on Grievances or Protests filed earlier in the day until the day's competition has ended. The Race Director has one hour following the end of the last race to consider Grievances and Protests.
  - **All Grievances and Protests will become final at the end of the race day. The Race Directors decision is final and is not protestable.** If you feel that an error was made in a race day DQ or decision, you (and the driver, if a minor) may appear at the next scheduled Board meeting to request that the Race Director's decision be reconsidered. You must have overwhelming and irrefutable evidence of an error in order for a decision to be reconsidered. The Board must agree to review the decision. You will then be allowed a limited amount of time to personally present your case. Should you not appear at the next club meeting the DQ or

situation will stand as ruled on race day by the Race Director. Points are finalized at the next Board meeting following the race.

19. **DQ & PENALTIES** - There are two types of DQ and penalties. The Race Director is responsible for identifying appropriate penalties. See Race Director Duties, Rule 17, (Page 14, section 18 above) in the **So-Cal Sprinters** Race Day Procedures. The term “Disqualify” (DQ) can be used for any number of penalties assessed for rules violations:

- To deprive of qualities, properties, or conditions necessary for a purpose.
- To deprive of a power, right, or privilege.

**The following are possible DQ categories;**

**CLASS 1**

Penalties for Class-1 are loss of position in Qualifying, Pre-Final, or Main. This means a driver will earn last place points for their race class. Infractions include but are not limited to:

- Weight
- Track Width
- Tires
- Exhaust Pipe Position
- Air Filter/Air Box
- Engine infractions incurred by contact during a Race.

**CLASS 2**

Penalties for Class-2 and for mechanical rules infractions are for more serious rules violations and will be enforced after the Main. The penalty is loss of points for the day and driver cannot use the race associated with a Class -2 DQ as a dropped race. Infractions include but are not limited to:

- Engine Specifications
- Clutch Specifications
- Fuel
- Leaving Post Tech Area before Being Told To
- Refusing Post Tech
- Ignoring a Black Flag

20. **PROTESTS** - Protests must be filed on an official protest form and filed with the Race Director within 30 minutes of completion of Qualifying, Pre-Main, or Main races. Protest forms are available at the President’s table. Legal entrant in same class must submit protest. **Protests will be resolved no later than 60 minutes after the last race of the day.** See **So-Cal** Race Day Procedures, Race Director Duties; Section 18 on page 14.

21. **TRACK PERSONNEL** - All participants are to adhere to the direction of infield personnel, Corner Workers, Race Director, Starter, Tech Director, Grid official and So-Cal Race Officials. **Corner Workers cannot help a driver remove a kart from the track until the driver’s engine has stopped running, the driver has left the kart or the driver is injured.** A Corner Worker can only assist a driver in the above situations when it is safe for the Corner Worker and

driver. The Corner Worker's job is to inform on-coming drivers of hazardous situation by waving the yellow flag and pointing to the accident, debris, oil or hazards as necessary.

22. **NO TIRE WARMING!** So-Cal Sprinters does not allow tire "scrubbing" on the pre-grid or during parade laps. This is a safety issue.
23. **DRIVING KARTS IN PITS** - Driving karts in or through pit area is strictly prohibited and will be enforced. Driver will be subject to disqualification and/or suspension.
24. **ROUGH DRIVING - Rough driving or any unsportsmanlike conduct by driver or their pit crew will be cause for disqualification and/or suspension.** See So-Cal Race Day Procedures, Race Directors Duties, Page 14, Section 18. Also see, DQ & Penalties on page 15; Section 19.
25. **RACING TO THE CHECKERED FLAG** – Racing ends when the driver is given the checkered flag at the start finish line. In the event of a tie at the finish line the starter and/or race director, at the race director's option, may consult a video from a SO-CAL SPRINTERS KART CLUB camera at the finish line. The Race Director's determination of the finishing order is final and cannot be appealed.
26. **KNOW IKF RULES - So-Cal** Race Day Procedures, coupled with **IKF** rules, regulate **So-Cal** races. Each driver is responsible for knowing the **IKF** rules. Please refer to the current IKF Competition Regulations and Technical Manual, Section 100, for information important to **So-Cal** Race Day Procedures. Other sections of the IKF Competition Regulations and Technical Manual that are used by **So-Cal** are: Section 200, Section 250, Section 275, Section 500, Section 600, Section 650 Section 675 Section 700, Section 800, and Section 900. Amendments and modifications to IKF rules are located on So-Cal Sprinters website and in the 2015 Race Day Procedures. **In the case of conflict between Club and IKF rules, Club rules prevail.**
27. **NO DOGS, BICYCLES, SCOOTERS, SKATEBOARDS, WATER TOYS, FOOTBALLS, etc.** - These items will not be allowed in the pits or grid areas before, during the race day until the final race is concluded. Parents are responsible for their children at all times. Drivers are responsible for their pit crew and guests. For insurance and safety reasons, any of the above equipment used in pits will be impounded and returned after the last race of the day. Failure to comply may be cause for a driver to receive a **CLASS 2 DQ.**
28. **ALCOHOL & ILLEGAL DRUGS** - No alcoholic beverages may be consumed until after the checkered flag of the last race of the day has been displayed. No illegal drugs or illegal substance may be used at any time. After the track race day is completed, local laws governing the use of alcohol. **No alcoholic beverages are allowed in tech area.** Drivers are responsible for their pit crew and guests.



29. **CLEAN PITS** - Please clean up your pit area. There are trashcans provided for this purpose. Please remove all clutch and engine oils as well as all used tires and fuel cans. Do not leave these items at the track. NOTE - The track management expects So-Cal's race day to be concluded within one hour after the last race has been checkered flagged.
30. **STARTERS and OTHER EQUIPMENT** - Be sure to check the grid for starters, kart stands and other equipment before you leave. Many kart stands and starters look the same. Please label and identify all your equipment in the event they become lost. The club is not responsible for equipment left at the track.
31. **TROPHIES** - Trophies or plaques or will be awarded to the top 3 finishers in each championship class for each race at the end of the race day. Awards from previous races will be available at the trophy table. The Kid Karts class is a developmental class. Season points are not scored or accumulated. All Kid Kart drivers will receive a participation award at the conclusion of each race day.
32. **SPEC FUEL AND OIL**- All classes for 2015 are required to use VP MS98 racing fuel. Drivers racing Rotax TAG or Honda Kid Karts engines may use VP MS93. 2 Cycle classes are required to use Burris Castor/Blend or Motul Grand Prix/8002T; Rotax engines may run 93 fuel and Rotax XPS specified oil. **Oil types may not be mixed.**
33. **USE OF VIDEO CAMERAS** – Video camera may be used during the race day. They must be mounted in accordance with IKF rules. AT NO TIME MAY CAMERAS BE MOUNTED ON THE DRIVER'S HELMET OR PERSON. Race officials will not use driver video to make or change any determinations of any events on race day.

***\*\*FAILURE TO COMPLY WITH ANY OF THE ABOVE RULES IS CAUSE FOR POSSIBLE DQ FOR THE DAY AND POSSIBLE LOSS OF POINTS\*\****

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## **KID KART INFORMATION**

**KID KARTS** – The **So-Cal Sprinters** are pleased to welcome and include the **KID KART** program in our 2015 racing schedule as championship classes. The program in 2015 includes both a Comer 50 class as well as the Honda GX50 classes run as two separate race groups. These young drivers are the future of karting.

**KID KART SAFETY** - In the interest of safety and fairness to other KID KART drivers and drivers with more experience, So-Cal's Race Director will observe new KID KART drivers on the track during the two practice sessions on race day. The Race Director will be observing kart control and driving skills. If in the Race Director's opinion a driver is not quite ready to participate safely, and could be a safety hazard to the other drivers, the Race Director may ask the driver not to participate in the event. The Race Director may suggest that this driver could require more practice. Adams Motorsports Park is open for practice regularly. They also have a KID KART drivers training program.

**CHEST PROTECTORS-** Chest protectors meeting SFI specification 20.1 are mandatory for all Kid Kart and Junior 1 drivers through age 11. **So-Cal** encourages all drivers to use chest protectors

**NO TIRE WARMING!** So-Cal Sprinters does not allow scrubbing of tires on the grid. This is a safety issue.

**So-Cal Sprinters Race Day Procedures will take precedence for this class. So-Cal supplements the Race Day Procedures for the KID KART class:**

**KID KART TROPHIES and AWARDS** - First, second, and third place trophies will be awarded to podium finishers. There will be participation trophies awarded to the other Kid Kart driver at each month's race.

## **WORKING FOR POINTS**

All club members may work one (1) race, per year for a race credit and 200 points. Workers that are not working for points can work for pay according to Club pay scale, if a position is available.

It is suggested that you work for points earlier in the year as the end of the year work for points opportunities fill up.

If you work for points you are responsible to:

- Register as a worker with the Registration Booth
- Follow **So-Cal** Working for Point's Procedure. See Race Day Procedures, Page 19.
- Register as working for point with Registration
- Report to Race Director for your work assignment

### **NOTE:**

**- Failure to properly register with the Registration Booth and Race Director will void your points and race credit.**

**- A maximum of six drivers are permitted to work for points each race. The first six drivers to register at Registration will be eligible to work for point for that race.**

**SENIOR DRIVERS** - Must work for themselves. **NO SUBSTITUTES.**

**JUNIOR DRIVERS** - Must be present at the event and have an adult work with them during their work assignment as assigned by the Race Director. Workers under the attained age of 16 cannot work as a Corner Worker unless accompanied by an adult.

**WORKING DRIVERS** - Must sign in at the Registration Booth for the class or classes they are working for. If you race in more than one class you can work for points and credit in each class that you race. A driver will be credited for the class they are working for

at the end day they work. If a driver races in more than one class, they will receive race credit for the additional classes after completing seven entries in their worked class and six entries in an additional class. Working for points is counted as a race entry.

**Any member who registers to race at a So-Cal race with the intent to race, has paid their entry fee and has not been on the track, may work for points for that race and receive a refund for the race.**

**Any member who registers for a So-Cal race, with the intent to race, has paid their entry fee and has participated in at least one practice but has not taken a green flag for a pre-main or main race may work that race. The driver must sign in at Registration as working for point and report to the Race Director for their work assignment. The working driver will receive race points and credit but no refund of race entry fees. If you are going to be a worker in this situation, timing is of the essence. Registration closes when Qualifying begins. If the Race Director has already filled the worker positions, drivers under this condition will be allowed to work even if the six driver maximum has been reached.**

**Important Note:** Once qualifying has started you will not be eligible to work for race points or credit. It would be unfair to the other workers who started working at the beginning of the race day. However, the club would greatly appreciate you as a volunteer worker for the rest of the race day.

Any member who registers for a **So-Cal** race, with the intent to race, has paid their entry, and taken a green flag in a Pre-Main or Main, will receive normal race points earned for the class they entered.

Any member who registers for a **So-Cal** race, with the intent to race, has paid their entry, and gone through Pre-Tech and has not placed themselves in a kart on the track will receive a race credit, provided they do not request an entry refund.

**No race credit will be given to any member ejected from an event.**

## **RACE AND CHAMPIONSHIP POINTS**

**So-Cal** uses the following regional points program published in the IKF Competition Regulations and Technical Manual, Section 800.12. Also see **So-Cal** Race Day Procedures, Trophies on page 17.

## IKF SCORING POINT GRID CHART

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
	1	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220		
P	2		192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210		
	3			183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200		
o	4				179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195		
	5					175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190		
i	6						171	172	173	174	175	176	177	178	179	180	181	182	183	184	185		
	7							167	168	169	170	171	172	173	174	175	176	177	178	179	180		
t	8								163	164	165	166	167	168	169	170	171	172	173	174	175		
	9									159	160	161	162	163	164	165	166	167	168	169	170		
o	10										155	156	157	158	159	160	161	162	163	164	165		
	11											153	154	155	156	157	158	159	160	161	162		
n	12												151	152	153	154	155	156	157	158	159		
	13													149	150	151	152	153	154	155	156		
s	14														147	148	149	150	151	152	153		
	15															145	146	147	148	149	150		
i	16																143	144	145	146	147		
	17																		141	142	143	144	
t	18																			139	140	141	
	19																					137	138
o	20																						135

*All finish positions below 20<sup>th</sup> position will receive two (2) points less than the higher finishing position; 21<sup>st</sup> would receive 113 points plus the number of entries, 22<sup>nd</sup> position would receive 111 points plus the number of entries, etc. 35<sup>th</sup> position and over would get just the number of entries.*

### Special Notes on Season Points:

- You must race at least six (6) races and be a So-Cal member in good standing to be eligible for So-Cal year-end trophies
- In 2015, all nine (9) races will count towards So-Cal Club championship. Member Drivers may work one race per class for points. If any races are canceled or dropped, the requirements for awards/trophies will be adjusted accordingly.

## RACING FLAGS

**PARADE LAP** - Before Green Flag the pole-position kart shall not be passed.

**GREEN FLAG** - Start racing. The track is clear to race.

**YELLOW FLAG** - Caution, no passing! Reduce speed and maintain your position. After you pass the yellow flag situation, you can resume racing. When yellow flag is displayed at start-finish line, entire track is under yellow flag conditions.

**RED FLAG** - Race is halted. Raise hand, pull over and immediately stop safely. In most cases, the Red Flag will only be shown at start-finish line. If the race is half-over and the Red Flag is shown the Race Director may decide that the race has been completed. Should the Red Flag be displayed, scoring will revert back to the last completed lap.

**BLACK & YELLOW FLAGS** (Displayed in corners) - The Red flag is being shown at the start-finish line. Raise your hand and come to a safe stop. Follow the directions given by on track safety personnel.

**BLACK FLAG, ROLLED** - Warning! You (the driver) have committed a driving infraction. The rolled flag will be pointed at you.

**BLACK FLAG** - Stop next lap at Scales. The Black Flag will be waved and pointed at you. You must pull into the scale area at the first safe opportunity. Your kart number may be displayed on a board at the Starters stand. Drivers, who in the opinion of the Race Director or Starter, clearly ignore the Black Flag, and do not stop at the scale area after Black Flag was given to them can be penalized by receiving a Class 2 DQ. No laps will be officially credited following the lap in which the Black Flag was given. **The Decision as to Whether the Black Flag Was Ignored Is Not Protestable and the driver may be subject to further sanctions by the So-Cal Board of Directors.**

**MEATBALL FLAG - Black Flag With Orange Ball** - Stop at Scales. There is a mechanical problem with your kart.

**BLUE FLAG - WITH YELLOW DIAGONAL STRIPE** - Faster competitor is overtaking you. Overtaking karts may not be passing you when you see the Blue Flag, however, faster karts are gaining on you and will be passing you soon. It is the overtaking driver's responsibility to pass safely. Do not change your racing line. Try to point to which side the overtaking karts can pass your kart.

**YELLOW AND RED FLAGS** - Re-start. Drivers reform for re-start at slow pace. Usually when the Re-Start flags are displayed, the starting grid should re-form to their original starting position. A Re-Start usually means that the race has not officially started. In a Re-Start situation, the Race Director and/or Starter may use a rolled flag (any color) or a finger pointing at you to take the position they are indicating. In some cases, your kart number may be displayed on a board at the Starters stand. Look for these signals.

**GREEN and WHITE FLAGS, ROLLED and CROSSED** - Courtesy flag indicates that the race is half over. Please be advised, not all Starters use this signal.

**WHITE FLAG** - Courtesy flag. One lap remaining.

**CHECKERED FLAG** - You have completed race. No more laps run!!!

**SIGNALING** - Driver shall raise one arm over their head to signal following drivers when slowing, pulling off course, failing to accelerate normally, or warning other drivers of impending hazard.

**ACCIDENT and/or MECHANICAL FAILURE** - In all karting events, if a kart cannot continue under its own power, the driver shall park their kart as far off the racing surface as possible and await the conclusion of the race before attempting to return to pit area. For safety reasons, drivers are also required to stay as far as possible away from the racing surface. No kart stands shall be on the track until the checkered flag has waved, ending the race.

**Thank you for choosing to be a member of So-Cal and racing with us. We hope that you will enjoy your racing experience**

## SO-CAL SPRINTERS



### Gear ratios

	Driver						
	10	11	12	13	14	15	16
50	5.00	4.55	4.17	3.85	3.57	3.33	3.13
51	5.10	4.64	4.25	3.92	3.64	3.40	3.19
52	5.20	4.73	4.33	4.00	3.71	3.47	3.25
53	5.30	4.82	4.42	4.08	3.79	3.53	3.31

<b>54</b>	5.40	4.91	4.50	4.15	3.86	3.60	3.38
<b>55</b>	5.50	5.00	4.58	4.23	3.93	3.67	3.44
<b>56</b>	5.60	5.09	4.67	4.31	4.00	3.73	3.50
<b>57</b>	5.70	5.18	4.75	4.38	4.07	3.80	3.56
<b>58</b>	5.80	5.27	4.83	4.46	4.14	3.87	3.63
<b>59</b>	5.90	5.36	4.92	4.54	4.21	3.93	3.69
<b>60</b>	6.00	5.45	5.00	4.62	4.29	4.00	3.75
<b>61</b>	6.10	5.55	5.08	4.69	4.36	4.07	3.81
<b>62</b>	6.20	5.64	5.17	4.77	4.43	4.13	3.88
<b>63</b>	6.30	5.73	5.25	4.85	4.50	4.20	3.94
<b>64</b>	6.40	5.82	5.33	4.92	4.57	4.27	4.00
<b>65</b>	6.50	5.91	5.42	5.00	4.64	4.33	4.06
<b>66</b>	6.60	6.00	5.50	5.08	4.71	4.40	4.13
<b>67</b>	6.70	6.09	5.58	5.15	4.79	4.47	4.19
<b>68</b>	6.80	6.18	5.67	5.23	4.86	4.53	4.25
<b>69</b>	6.90	6.27	5.75	5.31	4.93	4.60	4.31
<b>70</b>	7.00	6.36	5.83	5.38	5.00	4.67	4.38
<b>71</b>	7.10	6.45	5.92	5.46	5.07	4.73	4.44
<b>72</b>	7.20	6.55	6.00	5.54	5.14	4.80	4.50
<b>73</b>	7.30	6.64	6.08	5.62	5.21	4.87	4.56
<b>74</b>	7.40	6.73	6.17	5.69	5.29	4.93	4.63
<b>75</b>	7.50	6.82	6.25	5.77	5.36	5.00	4.69
<b>76</b>	7.60	6.91	6.33	5.85	5.43	5.07	4.75
<b>77</b>	7.70	7.00	6.42	5.92	5.50	5.13	4.81
<b>78</b>	7.80	7.09	6.50	6.00	5.57	5.20	4.88
<b>79</b>	7.90	7.18	6.58	6.08	5.64	5.27	4.94
<b>80</b>	8.00	7.27	6.67	6.15	5.71	5.33	5.00
<b>81</b>	8.10	7.36	6.75	6.23	5.79	5.40	5.06
<b>82</b>	8.20	7.45	6.83	6.31	5.86	5.47	5.13
<b>83</b>	8.30	7.55	6.92	6.38	5.93	5.53	5.19
<b>84</b>	8.40	7.64	7.00	6.46	6.00	5.60	5.25
<b>85</b>	8.50	7.73	7.08	6.54	6.07	5.67	5.31
<b>86</b>	8.60	7.82	7.17	6.62	6.14	5.73	5.38
<b>87</b>	8.70	7.91	7.25	6.69	6.21	5.80	5.44
<b>88</b>	8.80	8.00	7.33	6.77	6.29	5.87	5.50
<b>89</b>	8.90	8.09	7.42	6.85	6.36	5.93	5.56
<b>90</b>	9.00	8.18	7.50	6.92	6.43	6.00	5.63

## Shifter gear charts

	Engine			
	14	15	16	17
<b>20</b>	1.43	1.33	1.25	1.18
<b>21</b>	1.5	1.4	1.31	1.24
<b>22</b>	1.57	1.47	1.38	1.29
<b>23</b>	1.64	1.53	1.44	1.35

<b>24</b>	1.71	1.6	1.5	1.41
<b>25</b>	1.79	1.67	1.56	1.47
<b>26</b>	1.86	1.73	1.63	1.53
<b>27</b>	1.93	1.8	1.69	1.59
<b>28</b>	2	1.87	1.75	1.65
<b>29</b>	2.07	1.93	1.81	1.71
<b>30</b>	2.14	2	1.88	1.76

Engine			
	<b>18</b>	<b>19</b>	<b>20</b>
<b>20</b>	1.11	1.05	1
<b>21</b>	1.17	1.11	1.05
<b>22</b>	1.22	1.16	1.1
<b>23</b>	1.28	1.21	1.15
<b>24</b>	1.33	1.26	1.2
<b>25</b>	1.39	1.32	1.25
<b>26</b>	1.44	1.37	1.3
<b>27</b>	1.5	1.42	1.35
<b>28</b>	1.56	1.47	1.4
<b>29</b>	1.61	1.53	1.45
<b>30</b>	1.67	1.58	1.5

### **Oil Ratios**

50:1 = 2.6 oz oil to 1 US gallon of gasoline

40:1 = 3.2 oz oil to 1 US gallon of gasoline

32:1 = 4.0 oz oil to 1 US gallon of gasoline

24:1 = 5.33 oz oil to 1 US gallon of gasoline

16:1 = 8.0 oz oil to 1 US gallon of gasoline