

## MINI WEDGE RACING ASSOCIATION 2011 RULES

### MISSION

To provide the safest racing program possible designed to teach young drivers the skill, sportsmanship, and fair play needed to compete on and off the track.

### VISION

The MWRA will be known throughout the racing world as the standard in safety, quality, and value. No other organization will pose a serious threat to our continued success. MWRA will be a great experience for both parent and child. Opportunities for continuous education and growth will foster personal and career growth. Our efforts will be recognized by others who view us as a benchmark for safety and fairness.

### VALUES

We must strive to provide a fun and safe environment for every person. We do believe all of our members desire to excel in their life. We must treat each other fairly with respect, plus offer encouragement and appreciation as we work together towards the same goals. To promote families spending good, quality time together, at or away from the track.

### 2011 MWRA Rules and Regulations

Engine and Drivetrain Rules

Roll Cage and Frame Rules

Body Rules and Guidelines

Driver Safety

Race Rules

Inspection and Penalties

Example Drawings

The MWRA encourages a fun, family atmosphere. Times may arise that are stressful and upsetting to both parents and the driver. When addressing these issues, please speak in a manner that is respectful not only to the driver, but to others that are within hearing distance.

Membership in the MWRA shall be \$25.00 per year.

Membership is required at ALL MWRA tracks.

Membership applications can be obtained by contacting Paula @ Jay Smarr @ 304-462-5544

Engine & Drivetrain Rules

(all engine measurements are provided by A.K.R.A.)

## ENGINE SPECIFIC TECH SHEET FOR: BOX STOCK 6.5 OHV "Honda Clone"

#1 Description: Single cylinder, 2 valve, OHV 4 cycle

Important Note: All parts must be Box Stock factory production parts unless otherwise specified in this rules manual. No machining or alteration of parts is allowed unless specifically noted. All parts will be subject to a comparison to a known Box Stock part (when performing a "stock part" comparison check it is recommended to use a +/- .005" tolerance). Engine will be teched as raced. No Honda parts.

#2 Pump gasoline only, no additives, fuel can and will be checked by a MWRA official. Fuel must test in negative numbers on a MWRA fuel hydrometer.

#3 Combustion chamber volume: 26.5 cubic centimeter minimum, with piston at TDC, using prescribed procedure.

#4 Cylinder Head Requirements: Must be OEM casting only. Porting and / or grinding are not permitted. Valve seats are two angles 45 degrees valve face and 30 degrees top relief. Intake seat maximum ID .897" , Exhaust seat maximum ID .862". Stock head bolts only, must have four. Head gasket/s maybe after market, must be of stock configuration, 2 gaskets permitted with a total minimum thickness of .008" and maximum of .020". No copper or aluminum gaskets allowed. Any stock configuration exhaust gasket allowed no other sealer.

#5 Block Requirements: Block must remain stock as produced. Stub for governor may be removed and hole plugged. No machining of block allowed. Welding to the block shall be for rod damage repair only and may not constitute a functional modification. Stock cylinder bore is 2.685" max. Stroke is 2.123" + .010" or - .005". No piston pop-out allowed. Matting surface finish of block and cylinder head is a non tech item, sufacing of both to correct gasket failure and meet cc check allowed. May use 2 side cover gaskets of stock configuration.

#6 Carburetor requirements: Huayi OR RUI\*ING model carb only. Carb to intake sealer is gasket only no other sealer allowed. Choke must be as supplied from factory, but may be fixed to stay in open position. Venturi .615" NO-GO. Rear carb bore .751" NO-GO. Main fuel jet .042" NO-GO. Low speed idle jet .019" NO-GO. Stock emulsion tube must be used and unaltered, .066" max ID (no pass through). Throttle shaft - .115" minimum. Butterfly - .037" minimum. Aftermarket air filter adapter allowed (max length of 1.375).

#7 Valve Train: Stock valve cover only with any stock configuration gasket, no sealer. Factory stock rocker arms 1:1 ratio and push rods only. Stock valves only 45 degree angle only both valves, Intake valve Max OD .985" +/- .005" and Exhaust valve Max OD .948" +/- .005", no modifications allowed. Only Box Stock valve springs. Max wire diameter on spring wire is .071" with a maximum tension of 10.8 lbs. at a height of .850". Lash cap on exhaust valve only. Valve stem seal allowed only on Intake valve, maximum lip thickness of .027". Minimum thickness of Intake retainer .240" , Exhaust retainer .260" . BS lifters only, no modifications allowed.

#8 Ignition system: Stock Box Stock system only and must be unaltered. Kill switches (2) one must be located in drivers reach with all safety equipment as worn while racing, and one switch located at the top left rear of the roll cage behind the driver. Low oil sensor may be disabled and removed. Flywheel: Box Stock flywheel only(5lbs 4 oz minimum) including plastic fins. No alterations of any type allowed. Maximum ignition timing advance is 18° BTDC when a straight edge placed on the outside of the right-hand coil leg is just touching the right-hand edge of the metal magnet cover of the flywheel. Flywheel key is non-tech.

#9 Piston and Rings: Must be unaltered Box Stock only. No machining of piston and rings allowed.

#10 Connecting Rod: Stock Box Stock rod only. No machining of any type allowed. Stock rod bolts only.

#11 Crankshaft Requirements: Stock Box Stock crankshaft required. Machining, polishing, addition of material or other alteration of crankshaft is prohibited. Stock factory timing gear mandatory and must be installed in original location. Crankshaft journal diameter is 1.180" max - 1.168" min.

#12 Camshaft Requirements: Stock camshaft cores only, ez-spin assy must remain as stock. Cam lobe base circle diameter .865" -.005"/+.010" Duration check for Intake and Exhaust lobes (taken off pushrod). Intake duration of 219 degrees at .050 lift/86 degrees at .200 lift. Exhaust duration of 222 degrees at .050" lift/97 degrees at .200" lift(All duration checks on intake and exhaust allow +/- 2 degrees for wear and gauge variances). Max Intake lift on cam .225" – Min .215"lift taken at the pushrod. Max Intake lift at the valve .238" Taken on valve spring retainer with zero lash. Max Exhaust lift on cam .232" – Min .222" lift taken at the pushrod. Max Exhaust Lift at the valve .242" Taken on valve spring retainer with zero lash.

#13 Blower Housing Assembly: pull starter must be present and remain stock. Pull starter may be rotated for a better crank angle.

#14 Throttle linkage must use two return springs, one on the linkage from the pedal, and one on the engine. Must be in safe working order and not hang. Aftermarket throttle linkages like an ARC or Gecker etc. allowed.

#15 Header and Muffler Requirements: RLV 5438C made by RLV is suggested, or Box Stock Weiner pipe with or without muffler, either one, no other headers other than the two above allowed.

#16 Fuel Tank Requirements: Remote Mounted fuel tank recommended do to stock tank breakage. Fuel tank must be located in a safe location outside of the drivers cock pit, behind the driver, and inside the profile of the frame and roll cage, Pulse type fuel pump allowed. Walbro brand recommended. Tank must have shut off valve and should have an inline filter between tank and carb. Remote tank can be plastic or aluminum and must have a rollover leak prevention set up. A LCD Fab check valve ( can be purchased at 704-795-0617) must be used with a gasket and a cap in good condition.

#17 Fuel Pump Requirements: Fuel pump must be pulsed from either the crank case or the valve cover.

You may install a flat metal plate in the original tank location for the purpose of mounting the throttle linkage and fuel pump.

#18 If stock tank is used it must use a Honda gas cap, this is the only Honda part allowed on the car. This is the last year the stock tank will be allowed, Most kart sanctioned races have already outlawed the use of the stock tank.

#19 If an engine is ruled illegal , the team in question will be banned from any sanctioned MWRA event for the period of 12 months. If there is any question whether the tech was performed incorrectly, the engine will not leave the possession of the MWRA tech until all certified MWRA techs can examine the engine in question. If this procedure or any other tech procedures are refused by the child's guardians, the suspension will be implemented immediately.

#20 MWRA tech inspectors may do a motor "tear down" on any cart he/she chooses, at any MWRA event. MWRA officials will be trained to perform a complete motor tech. Inspectors are not responsible for reassembling engines after inspection.

#21 The tech inspector may tear a motor down as far as he/she believes necessary.

#22 If the inspector rules that your motor or part of your motor is illegal, you will be disqualified. The inspector's decision is final.

#23 If you have any question about your motor being legal, YOU need to have it checked. It is your responsibility to make sure that your motor is legal. A brand new (out of the box) motor does not make it legal. There are variances in the manufacturing processes.

#24 Power transmitted by centrifugal clutch, drum or disc. No variable belts or pulley systems. Must use chain guard and engine must stay behind driver's seat.

#25 Car must use a one piece rear axle. 1.25" diameter recommended, aluminum or steel and must use snap rings on each end. No one wheel spin hub designs or ratcheting wheel hubs allowed.

#26 Brakes: Hydraulic brakes must be in proper working order.

### Roll Cage and Frame Rules

Most cars up to this point have been made of steel tubing known as "electroweld". For the most part these cars have stood up well , but as race teams progress on safety and performance the need for a better car construction has to progress as well. Any new construction of mini-wedges must consist of DOM tubing. It has better strength yields and makes an all around better car. The MWRA has heard many recommendations on this subject. Again, any new mini-wedge construction will need to be made of a minimum of DOM tubing. All existing cars will be allowed to run till they are phased out. The MWRA will not be responsible for any accidents, injuries, or death.

### Roll Cage Construction

- #1 All roll cages are to be made of steel tubing no less than 1" diameter, consist of proper welds and notches where the tubes are joined.
- #2 All cars must have a 6 point roll cage made of atleast .065" DOM steel tubing or .083" electroweld built within the following guidelines:
- #3 Roll cage must have a verticle upright on both sides of the driver welded to the main frame on the bottom and welded to the top roll bars on the top or a main loop going around the driver welded to the main frame at the bottom and welded in at the top. Both ways must run at the same angle as the back of the seat.
- #4 A horizontal bar must be welded at both ends between the seat verticles behind the seat and be placed about half way between the main frame and the top of the cage. At least one diagonal bar must also be welded at both ends and brace the seat verticles to the horizontal bar behind the seat.
- #5 Atleast a 15" square opening must be over the driver within the rollcage.
- #6 Rollcage must have a rear down tube on both sides welded to the seat verticles on one end at least 18" from the main frame and attached to the main frame near the back axle on the other end.
- #7 Rollcage must have a forward down tube on both sides that atach to the main frame at one end beyond the front pedals and weld to the main hoop or seat verticles on the other end.
- #8 Rollcage must have a horizontal dash bar welded to both front down tubes and weld on each end to the side crash bars.
- #9 Side crash bars must span from the center of the front wheel to the center of the rear wheel and stay inside the body. Side crash bars must also weld to the main frame or roll cage in atleast 4 places. At least 1 of the 4 weld points must be a door bar that welds to the crash bar on one end and to the main frame on the other end placed beside the driver's seat on each side.
- #10 All cars must have 4, 5/16" minimum verticle metal bars spaced evenly acrossed the opening between the front down tubes attached to the front down tubes securely, by weld or bolts with lock nuts.
- #11 If a remote fuel tank is used, it must remain inside the profile of the roll cage and main frame in case of a roll over.

#### Main Frame Construction

- #1 Wheelbase 45" to 51" Maximum Width (outside tires) 42"
- #2 Main Frame must be made of 1" steel tubing .083" minimum.
- #3 All main frame tubing must be inside the body, this does not include the upper half of the roll cage.
- #4 No part of the chassis will have a tube protruding beyond 2" measured from the closest weld joint any where on the chassis.
- #5 All cars must have a nerf bar or other adequate side protection made of 3/4" tubing .083" min. or 1" .065" min. on each side. Same dimensions for mandatory

front and rear bumpers. All nerfs and bumpers must be perpendicular to the ground, no leaning forward or back, and each must have atleast a 6" loop welded to them 18" long, either bolted or welded to the main frame.

#6 Engine must be mounted behind the seat.

#7 Control pedals must stay behind the front down tubes and securely mounted to the frame or skid plate.

#8 Seat mounts must be made from .083" 3/4" tubing or 3/16" plate welded to the main frame or roll cage, 4 mounting points on the seat.

#9 Lead ballast weight must be bolted or welded to the main frame or the seat securly with lock nuts and bolts, no tape, zip ties, bungees, hose clamps etc.

#10 Cars must use an aluminum racing style, high back seat, with padding, mandatory.

#11 Cars must use a one piece rear axle that bolts directly to the main frame, like what is used on modern racing flat karts, with no use of springs, rubbers, or torsion bars to construct a suspension, Front wheels must not be suspended in any way by springs, rubbers, or torsion bars either.

#12 No use of adjustable links to replace a mandatory frame or roll cage tube.

#13 Cars must maintain a 2" ground clearance.

#14 Cars must weigh 315 pounds minimum.

#15 Effective June 1, 2008, Hoosier tired ONLY must be used. Hoosier parts # 15300 (33.0/4.5 x 6D20 compound.) or Hoosier part # 11300 (10.5 x 4.5-6 D20A compound.) No grooving or slicing of the tires. Hoosier Tires has developed a program for the Go-Karting Associations. This program will earn MWRA money for using Hoosier tires. All tracks and karts will be running Hoosier tires. The MWRA will earn 1 point for each kart, each night, running Hoosier tires.

#### Body Rules and Guide-lines

#1 Body must be constructed of .063" aluminum with no sharp or jagged edges.

#2 Rear deck height must not exceed 24" from the ground and be atleast 20" from the ground.

#3 No roofs.

#4 Must be 4" of body behind the rear wheels secured by a flexible strap, plastic recomended. This section may be made of plastic like the rear flexible strap to help prevent tire damage.

#5 Race plastic may be used for the nose and trim.

#6 Body must fully enclose the wheels.

#7 Body work must not cover engine area.

#8 Must be atleast a 4" aluminum decklid strip across the back.

#9 Body must cover side crash bars and side nerf bars, but not the front or rear bumpers.

#10 Tires must remain inside the body.

#11 48" max body width. 90" max body length.

#12 Driver must not be exposed to the track on either side or be able to get their feet tangled around the wheels. Car must have a skid plate that starts beyond the front pedals and continues the length of the car to atleast the front of the seat made of atleast .063" aluminum and bolted, not riveted, with lock nuts to the bottom of the frame. Lead ballast weight is strongly discouraged from being mounted to the

skid plate.

#13 Car numbers must be at least 12" tall on both sides and be of sharp contrast to the body color. It is recommended that a car number be displayed on the front and rear at least 8" tall for scoring purposes. If the number can't be read you may not be scored properly!

#14 No spoilers or wings rising above the rear decklid.

#### Driver Safety

#1 All drivers must wear an approved SFI-1 certified or SF 13-2A/1 fire suit. SFI certification patch shall be required on fire suit.

#2 A full face Snell 05 rated helmet will be mandatory at all tracks and at all MWRA events. No motocross type helmets with goggles and mouth guard will be allowed.

#3 All drivers must wear a neck brace.

#4 All drivers must wear arm restraints. Arm restraints are to be worn between the elbow and wrist area.

#5 MWRA strongly recommends the use of fire resistant underwear.

#6 All drivers must wear a closed toe shoe. No sandals, flip flops, etc. A fire resistant racing shoe is strongly recommended.

#7 Fireproof gloves are mandatory at all MWRA events.

#8 To ensure the safety of all drivers, drivers that have injuries that would affect their ability to drive (broken bones, casts, medications that affect driving ability, etc) will not be permitted to participate in MWRA races/events until a written medical release is received from the driver's physician.

#9 All cars must have a 5 point safety harness securely fastened to the main frame and adjusted to where the driver stays firmly in the seat. Harness must not be more than 2 years old according to the manufacturer's date tag.

#10 All cars must use a triangular window net on each side of the car that attaches to the roll bar, similar to those used on Sprints, Midgets, etc.

#11 All cars must have 2 kill switches, one in reach of the driver with full safety gear on, and one at the top left rear of the roll cage. Must be on/off switches, no momentary buttons.

## Race Rules

#1 A PARENT or LEGAL GUARDIAN must accompany all drivers. Unless you are appointed his/her legal guardian, by law, you cannot sign a release form for them. Therefore, they cannot race. Any exception to this rule cannot be made by an MWRA official and must be brought before the track's management or tracks insurance carrier for a decision.

#2 All cars will be lined up according to their pill draw. Failure to draw a pill before the line up is turned into the track officials will result in the driver starting at the tail of the heat.

#3 You need to know when you will be racing. Allow plenty of time to prepare the driver. (buckling up, suiting up, etc)

#4 MWRA officials are not responsible for each driver and ensuring that they are prepared to race. Be prepared to race at a moment's notice! All cars are to be kept in the MWRA pit area. This allows all carts to be teched, weighed, etc.

#5 Track officials in the scoring tower will make all scoring and judgement calls. Their decisions are FINAL.

#6 Arguing about scoring or judgement calls will not be tolerated. Confrontations/arguments with MWRA officials, track officials, or another parent can result in a minimum suspension of two weeks from all MWRA sanctioned tracks.

#7 The scoring tower is off limits to drivers and anyone who is not a track staff member.

#8 Any parent, driver or member of any team involved in any type of confrontation with anyone at the track will result in a suspension of the driver for at least two weeks from ALL MWRA events at any track.

#9 Age limit is 6 years through 14 years of age. You must provide a copy of your birth certificate before your first race at registration. Age is determined at the beginning of the racing season. (If child is 14 at the beginning of the season and turns 15 during the season, he/she may complete the racing season.)

#10 If a motor change is necessary after the heat race, you must "tag the tail" in the feature race.

#11 In cases where a cart is being driven by anyone other than the registered driver of that cart (substitute driver) points are given to the substitute driver. The substitute driver's number must be placed on the cart that he/she is driving.

#12 NO alcohol is permitted in the pits. Adults that are consuming alcohol will be asked to leave the MWRA pit area IMMEDIATELY.

1st offense- Adult will be asked to leave. Failure to leave pit area will result in one week suspension of kart/driver that adult is affiliated with.

2nd offense- Suspension of kart/driver individual is affiliated with for remainder of the season.

## Inspections and Penalties

#1 MWRA officials will visually inspect cars.

#2 MWRA tech inspectors may do a motor “tear down” on any cart he/she chooses, at any MWRA event. MWRA officials will be trained to perform a complete motor tech. Inspectors are not responsible for reassembling engines after inspection.

#3 The tech inspector may tear a motor down as far as he/she believes necessary.

#4 If the inspector rules that your motor or part of your motor is illegal, you will be disqualified. The inspector’s decision is final.

#5 If you have any question about your motor being legal, YOU need to have it checked. It is your responsibility to make sure that your motor is legal. A brand new (out of the box) motor does not make it legal. There are variances in the manufacturing processes.

#6 If an official decides that your car or part of you car is illegal or unsafe, you will be asked to fix it prior to racing it. Any MINOR infraction you are asked to fix MUST be taken care of before your next MWRA race.

#7 Any participant, car and/or motor may be inspected anytime, at any track, regardless of their race results.

#8 If a tech inspector deems that any part of your car or motor is illegal, you will be disqualified.

#9 If any participant, car, motor, or personal safety equipment is found to be improper, unsafe, or illegal, you will be disqualified.

#10 All tech procedures are done using MWRA tech gauges, not the racer’s gauges.

#11 Minor infractions such as no gloves, no neck brace, no chain guard, body work infraction, loss of ballast, rough driving, jumping the start, arguing with others, failure to slow down after checkered flag, etc., could result in a loss of track points and a 2 week suspension.

Major infractions are considered as any illegal act committed on purpose for an advantage gain over their competitors that is not allowed by the rules or otherwise given permission to do, by the track or

MWRA officials such as wrong fuel, arguing with any MWRA track official or going to track promoters will result in the following:

1st offense: Surrender of illegal parts for destruction. Loss of all track points for that night and two week suspension (14 days/2 regular races) from all MWRA tracks and events. No penalty for rainouts.

2nd offense: Immediate suspension for the remainder of the year from all MWRA tracks and events.

Any engine infraction goes back to rule #19 in Engine and Drivetrain section.

#12 Any car Jumping the start will be docked 2 positions during race if there is a caution, and if no caution car will be docked 2 positions after the race. Witnessed rough driving will be disqualified and earn no points for that race. Driver will receive a warning. Second offense will result in disqualification for 2 weeks. Third offense will result in suspension for the remainder of the year from all remaining MWRA races and events.

#13 Any car refusing inspections will be automatically suspended from MWRA tracks for the remainder of the season.