

2017 Crate American Racer Series – CARS Technical Rule Book

TECHNICAL RULES & REGULATIONS

Any driver and/or car owner that violates any technical rule as presented within the rulebook and/or issued in a written bulletin will be subject to disqualification and/or fine and/or suspension and/or loss of points and/or any other action deemed appropriate by CARS Series Officials.

ENGINE:

1. GM PART NUMBER 88958602 & GM PART NUMBER 88958604.
2. THESE ENGINES ARE SEALED AT THE INTAKE MANIFOLD, CYLINDER HEAD, FRONT COVER, AND OIL PAN WITH SPECIAL TWIST OFF BOLT HEADS ORIGINALLY FROM GM, CRATE USA (yellow) AND FASTRAK SEALS ALLOWED. (Note: RUSH seals permitted on GM 602s). NO RM BOLTS. FOR ANY OTHER SEALING SYSTEM, CONTACT CARS FOR APPROVAL. CRATE ENGINES MUST NOT BE ALTERED, MODIFIED OR CHANGED FROM FACTORY SPECS.
3. THE SEALED ENGINES MUST REMAIN INTACT AND NOT BE TAMPERED WITH; ANY SEALS THAT HAVE BEEN REMOVED OR TAMPERED WITH WILL MAKE THE ENGINE ILLEGAL AND NOT ELIGIBLE FOR COMPETITION. THE PENALTY FOR ANYONE TAMPERING WITH SEALS, MODIFYING ANY INTERNAL ENGINE PARTS, CHANGING THE PARTS FROM STOCK AS DELIVERED SEALED FROM THE FACTORY WILL BE SUBJECT TO EXPULSION FROM RACING WITH THE CARS.
4. NO CHANGES ARE ALLOWED TO THE ENGINE - INTAKE MANIFOLD, HEADS, VALVE COVERS, FRONT COVER, OIL PAN, HARMONIC BALANCER OR ANY OTHER PART / OR PARTS ON / OR IN ENGINE.
5. In some cases that original factory cylinder heads and valve springs do not meet the required correct install height. To correct this, shimming will be allowed to meet the correct install heights listed in the chart below. These updates will be published in a forthcoming version of the GM Technical/ Specification Manual.

Valve Spring P/N	Description	88958602	88958603	88958604
10212811	12551483	12551483	Valve Spring P/N -set of 16	n/a
12495494	12495494			
Diameter (+/- .010") (A)	1.250"	1.340"	1.340"	Free Height (+/- .015") (B)
2.021"	2.154"	2.154"		
Installed Height (Ok to shim to proper height) (C)	1.70"	1.780"	1.780"	Pressure @ Installed Height (+/- 5 lbs) (D)
80 lbs.	110 lbs.	110 lbs.	Open Height (E)	1.270"
1.300"	1.300"	Open Pressure (+/- 10 lbs) (F)	195 lbs	270 lbs.
270 lbs.	270 lbs.	Coil Bind (G)	1.20"	1.21"
1.21"	Wire Diameter	.177"	.178"	.178"

6. New Beehive (blue) Valve Springs:

Valve Spring Specifications – New (Blue) Beehive Valve Spring Description Engine 19318604 Fast Burn Cylinder Head 19300955 Valve Spring P/N -16 12625033 Valve Spring P/N –Retro Conversion Kit 19300952 Diameter Top (+/- .008") 1.060" Diameter Bottom (+/- .008") 1.270" Free Height (+/- .015") 2.122" Installed Height (Ok to shim to proper height) 1.780" Pressure @ Installed Height (+/- 5 lbs) 98 lbs. Open Height 1.300" Open Pressure (+/- 13 lbs) 264 lbs. Coil Bind 1.210" Wire Diameter Ovate

7. NO VACUUM PUMPS.

8. ALL CRATE ENGINES MUST REMAIN STOCK AS THEY CAME SEALED FROM THE FACTORY. CRATE ENGINES MUST NOT BE ALTERED, MODIFIED OR CHANGED FROM FACTORY SPECS.

9. ENGINE'S GM SERIAL NUMBER AND WHEN APPLICABLE CRATE USA BUILD CERTIFICATION NUMBER, MUST BE CLEARLY VISIBLE TO SERIES TECHNICAL INSPECTORS.

10. CARS Officials reserve the right to technically inspect, exchange and/or confiscate any GM Crate Engine at any time. Failure to surrender the engine and/or submit the engine for inspection equals disqualification for the night's event (loss of points and money), loss of all Series points to date and possible suspension.

11. ANY VIOLATION OF THE ENGINE RULES AND/OR FACTORY SPECS INSIDE THE SEALING SYSTEM OF THE ENGINE WILL equal disqualification for the night's event (loss of points and money), loss of all Series points to date and possible suspension.

AFTER THE SUSPENSION PERIOD, THE DRIVER AND/OR OWNER CAN ONLY COMPETE IN SERIES' EVENTS WITH AN ENGINE EQUIPPED WITH ORIGINAL FACTORY GM SEALING BOLTS, OR CRATE USA SEALS FROM AN AUTHORIZED REBUILDER APPROVED AND, AUTHORIZED BY CRATE RACIN USA OFFICIALS. DRIVER AND/OR OWNER WILL BE NOTIFIED IN WRITING OF SERIES DECISION. ALL DECISIONS ARE FINAL.

For subsequent violations in regard to any illegal modification to any GM Performance Parts Crate Engine an indefinite suspension will be issued.

12. ANY VIOLATION OF THE ENGINE RULES AND/OR FACTORY SPECS "OUTSIDE THE SEALING BOLTS" OF THE ENGINE WILL RESULT IN THE DRIVER AND/OR CAR OWNER BEING DISQUALIFIED FROM THAT EVENT (LOSS OF POINTS AND MONEY). AT THE SERIES DISCRETION, DRIVER AND/OR OWNER MAY BE SUSPENDED FROM SERIES COMPETITION FOR UP TO 30 DAYS, AND FINED UP TO \$500. DRIVER AND/OR OWNER WILL BE NOTIFIED IN WRITING OF SERIES DECISION, ALL DECISIONS ARE FINAL.

ENGINE SETBACK:

1. ENGINE SETBACK WILL BE 6" FROM CENTER OF TOP BALL JOINT TO THE #1 SPARK PLUG WITH A 1- INCH TOLERANCE ON ENGINE SETBACK. THERE WILL BE A 50-POUND PENALTY FORWARD OF THE MOTOR PLATE FOR EACH 1/2-INCH OF SET BACK BEYOND SEVEN (7) INCHES OF ENGINE

SETBACK. NO CARS WITH MORE THAN AN EIGHT (8) INCH ENGINE SETBACK WILL BE ALLOWED TO COMPETE.

CARBURETOR:

1. One four-barrel carburetor only. The 604 and 602 Chevrolet Performance Circle Track engines perform best with a quality 650 CFM Carburetor. Any 750 CFM or smaller carburetor allowed; must have 1 11/16" base plate maximum.

2. ENGINE MUST BE NATURALLY ASPIRATED.

3. 604 - MAY USE ONE CARBURETOR SPACER (1 INCH-ONE PIECE WITH .040 TOLERANCE MAXIMUM) AND TWO STANDARD PAPER GASKETS (MAXIMUM 0.070 INCH THICK), ONE GASKET BETWEEN INTAKE TO SPACER AND ONE GASKET BETWEEN SPACER TO CARBURETOR.

4. 602 - MAY USE ONE CARBURETOR SPACER (2 INCH-ONE PIECE WITH .040 TOLERANCE MAXIMUM) AND TWO STANDARD PAPER GASKETS (MAXIMUM 0.070 INCH THICK), ONE GASKET BETWEEN INTAKE TO SPACER AND ONE GASKET BETWEEN SPACER TO CARBURETOR

5. CARBURETORS MUST HAVE CONVENTIONAL NEEDLE, SEAT, AND FLOAT SETUP. 12 PSI MAX

DISTRIBUTOR/IGNITION:

1. Any electronic distributor-type ignition system. NO crank trigger, distributor less multi-coil, or magneto ignition system. No programmable ignition box. Only one ignition box permitted. Dual pickup distributor permitted; only one pickup in distributor can be utilized.

BATTERY/STARTER:

1. Maximum one 16-volt battery. No lithium batteries.

2. All cars must have a starter in working order.

WATER PUMP:

1. Cast or aluminum permitted.

2. No electric water pump. No electric fan.

EXHAUST:

1. Collector-type headers required. Must have four (4) tubes into one (1) collector of a consistent diameter.

2. NO tri-y headers, merged headers, or square-tube headers allowed.

3. Mufflers not required unless track mandates. When mandated, mufflers must have some type of internal noise dampening characteristics, baffles, extruded holes, screen, chambered, etc. Mufflers must meet local speedway's noise decibel requirements. External mufflers only.

FUEL CELL/FUEL PUMP:

1. All cars must have fuel cells that meet and/or exceed FT3 specifications. The fuel cell must have a maximum capacity of 35 gallons.
2. The fuel cell must be enclosed completely in a container that is a minimum thickness of 20-gauge magnetic steel and/or .060"-inch aluminum.
3. The entire container must be visible for ease of inspection.
4. The fuel cell must be mounted behind the rear axle between the rear tires, a minimum of 4"-inches ahead of the rear bumper. The bottom of the fuel cell must not be any lower than the bottom of the rear end/quick change housing.
5. The fuel cell must be mounted with a minimum of two (2) .125"-inch thick steel straps. The straps must cover the entire cell. Fuel cells that are mounted in a square tubing frame will be permitted. A minimum of 7/6"-inch ASTM Grade 8 bolts must be used to mount the fuel cell to the frame.
6. The fuel pick up must be positioned on the top or right side of the fuel cell and be constructed of steel. The fuel pick up must have a check valve.
7. For the purpose of inspection, the driver and/or crew must be prepared to drain fuel upon request for inspection and/or measurement.
8. Mechanical fuel pumps only; cam driven or belt driven style. Regulators permitted. Fuel injection system(s) and/or electrical fuel pumps and/or any type of pressurized fuel system will not be permitted.

FUEL:

1. SUNOCO IS THE OFFICIAL FUEL OF THE CRATE AMERICAN RACER SERIES.
2. CRATE 91 OR SUNOCO 110 WILL BE THE ONLY TWO FUELS LEGAL FOR COMPETITION.
3. It is the racers' responsibility to know what he or she is putting in the fuel cell. Series reserves the right to check fuel anytime.
4. PENALTIES FOR FUEL VIOLATIONS OR FAILURE TO ALLOW FUEL SAMPLE TO BE TAKEN: Disqualification from event (loss of points and money) in addition to other possible penalty.

ALL DECISIONS ARE FINAL.

ENGINE PROTESTS/SELECTION:

1. The protest fee for a complete teardown of an engine that finishes the A main in the top five is \$900, and must be made by a driver/owner that finishes in the top five. \$300 of protest fee will go to Series or Track and the remaining \$600 will go to the winner of the protest.
2. Protest and fee in cash must be made to a CARS Tech Inspector, Race Director, or Track Tech Inspector within 10 minutes of the completion of the feature. Protest cannot be withdrawn once it has been declared.
3. At any time an engine is protested and driver/car owner accepts protests and agrees to tear down, the engine being protested must be removed and impounded by Series/Track right then. Protested engine will be tagged by CARS Official, Race Director, or Track Tech Inspector to insure that it has not been tampered with and it is the same engine. Any refusal at this point for any reason will result in disqualification, \$1,000 fine, and 365-day suspension. If the engine is found to comply with all applicable rules, then driver/owner will be awarded all money and points earned for each event.
4. Any CARS-sanctioned race track and/or CARS Director(s) are authorized to call for an engine inspection or tear down at any time. Tear down and inspection will be performed by CARS Tech/Competition Director. If this happens, Track/Series will remove engine at race track and impound until inspection day can be arranged for all parties involved. (See paragraph number four for procedures if selected car is to race in successive events.)
5. At this time, the feature finish will be frozen until inspection is complete. If at that time any competitor chooses to accept their pay before tech process is completed, they CANNOT receive any additional monies, but finishing position and points would be adjusted accordingly.
6. Failure and/or refusal to tear down an engine and/or for your race car to be inspected by Series at any time will result in a 365-day suspension and \$1,000 fine.
7. Only 3 people from protested car (preferably car owner, driver, and crew member) and 1 person designated from the team protesting will be allowed in the tech area during a protest. Protestor must be present during the entire teching procedure. Protestor and protested car owner and/or driver along with their protested sealed parts/engine must be present at designated time and place determined by CARS Official.
8. Engine infractions "within the bolts" can result in a \$1,000 fine, 365-day suspension, and loss of all points to date for both driver and car owner (if different from driver). Additional fines may be assessed if protested or selected engine for teardown was permitted to compete in consecutive events.
9. In the event that the series confiscates engine, for inspection, and said engine is found to be legal, and comply with the all the rules, the "Series" will provide a full GM gasket set, and the seals to reassemble engine at no charge to the authorized rebuilder and engine owner. If engine is protested by another racer for inspection, the engine owner is responsible for all expenses required for reassembly.

In the event of a protest, the party that protested also agrees to accept final ruling on decision and has no legal rights thereafter.

BODY

1. CRATE RACIN' USA AND FASTRAK BODY RULES WILL APPLY. NO RAISED OR GURNEY LIPS OF ANY TYPE ALLOWED ON BODY. NO TUNNELLING OF ANY TYPE ALLOWED UNDERNEATH BODY, ALONG FRAME, OR AROUND FUEL CELL AREA. A STONE SHIELD FOR REMOTE OIL FILTER OR TRANSMISSION IS ALLOWED, 24" X 24" MAXIMUM LOCATED NEAR REAR ENGINE PLATE. (See illustrations at the end of this Rulebook for further body specifications).

2. 8" spoiler rule

3. THE AEROTECH DOMINATOR NOSE PIECE IS ALLOWED.

4. Deck height: may be dropped no more than a maximum of 4 inches below the door; and must be enclosed at firewall.

5. NO mirrors.

6. NO radios.

7. RACEceiver is mandatory at all Tour events and may be mandatory at Weekly events (see each track's rules). Transponders are mandatory at tracks and events that require them.

FRAME:

1. ALL FRAMES MUST BE OF STEEL CONSTRUCTION. Note: Aluminum, titanium or other 'exotic' material is not permitted on any part of the frame.

2. SQUARE OR RECTANGULAR FRAME MUST HAVE A MINIMUM OF 2" BY 2" MATERIAL, .083 WALL THICKNESSES.

3. ROUND TUBE FRAME, TUBING MUST HAVE A MINIMUM OF 1-3/4" OUTSIDE DIAMETER, .083 WALL THICKNESSES.

WHEELBASE:

1. Minimum wheelbase will be 102".

ROLL CAGE:

1. ALL CARS MUST HAVE A SUITABLE STEEL ROLL CAGE PROTECTING THE DRIVER'S COMPARTMENT, INCLUDING HEADREST. (Note: Titanium or aluminum is not permitted)

2. SIDE ROLLBARS ARE MANDATORY, AND MUST EXTEND INTO THE DOOR PANELS. A MINIMUM OF THREE (3) BARS MUST BE ON THE LEFT SIDE.

3. EACH BAR MUST BE AT LEAST 1 - 1/2" DIAMETER, WITH A MINIMUM MATERIAL THICKNESS OF .083".

4. ROLL CAGES MUST BE WELDED TO FRAME.

SAFETY:

DRIVER SAFETY IS THE DRIVERS RESPONSIBILITY! THIS IS NOT THE AREA OF THE RACE CAR TO TRY AND SAVE MONEY, ANY MONEY SPENT ON DRIVER SAFETY WILL ALWAYS BE WELL WORTH IT!

1. ALL CARS MUST HAVE 3" SEAT BELTS WITH SHOULDER HARNESS AND MUST BE ATTACHED TO ROLL CAGE. 3 YRS MAXIMUM AGE STRONGLY RECOMMENDED.

2. It is highly recommended all cars be equipped with either a 2-lb ABC fire extinguisher or a 5-lb. Halon System.

3. Hans, Hutchens, and/or similar safety restraint are highly recommended.

4. ALL DRIVERS MUST WEAR A COMPLETE FIRE SUIT.

5. GLOVES ARE NOT REQUIRED, BUT HIGHLY RECOMMENDED.

TRANSMISSION:

1. MUST HAVE AT LEAST ONE FORWARD AND ONE REVERSE GEAR IN WORKING ORDER.

2. NO STRAIGHT DRIVES OR IN AND OUT BOXES.

3. DRIVE SHAFTS MUST BE PAINTED WHITE - CARBON FIBER DRIVE SHAFTS ARE LEGAL.

4. BALLSPINE TRANSMISSIONS-STRONGLY RECOMMENDED TO RUN CARBON FIBER DRIVE SHAFT ONLY! (*This is for your safety*)

REAR ENDS:

1. Titanium moving parts with rear end including wheel studs is prohibited.

BRAKES:

1. STEEL BRAKE ROTORS ONLY--NO CARBON FIBER BRAKES, TITANIUM BRAKES OR OTHER EXOTIC MATERIAL BRAKE SYSTEMS.

WHEELS:

1. ANY BRAND OR TYPE OF WHEEL ALLOWED MUST BE MOUNTED WITH LUG NUTS; however, carbon fiber or titanium wheels are not permitted.

2. NO KNOCK-OFF OR CENTER LOCK WHEELS.

3. MAXIMUM WHEEL WIDTH - 14".

TIRES

1. ***MUST USE 4 AMERICAN RACER CRATE TIRES TO BE ELIGIBLE FOR CARS POINTS OR AWARDS.***
2. ***All other drivers must use 2 AMERICAN RACER CRATE TIRES on the LR and RR positions***

RR – 92/11.0-15BT CRATE 44

RR – 29.0/11.0-15BT CRATE 53

LF, RF, LR - “Newly Designed” 88.0/11-15BT CRATE 44/53

Grooving and siping allowed only on 53 compound

1a. Drivers may use any other Rush/Fastrak crate series (FT 200, FT400, D-21, D-55) approved tire on the LF and RF positions but will not be eligible for CARS points or awards.

Altering tires by any means of needling or chemical treating is strictly prohibited!

Note: Newly-sanctioned speedways will be permitted a burn-off period of four completed events for previously allowed tires.

2. Series may take physical samples and/or use the “Sniffer” to insure that no competitor has employed any chemicals to alter the performance of his or her tires. At the sole discretion of race officials, any competitor may have his or her tires tested with the “Sniffer” for both internal and external introduction of chemicals or be required to allow samples to be taken for later submission to an independent laboratory, or both. Tire samples not conforming to manufacturer’s submitted factory benchmark will be deemed illegal.

3. IT IS THE DRIVERS RESPONSIBILITY TO KNOW WHAT IS ON THEIR RACE CAR AT ALL TIMES. ANY USED WHEELS OR TIRES THAT MAY BE SUSPECT BY THE DRIVER SHOULD NOT BE USED. THE DRIVER OR A CREW MEMBER MAY BE IN TECH AREA TO VIEW WHAT IS BEING TESTED, BUT WILL NOT BE ALLOWED TO VIEW “THE SNIFFER” READINGS. THAT INFORMATION IS THE SOLE PROPERTY OF CARS, AND DRIVERS WILL BE NOTIFIED SIMPLY IF THEY PASS OR FAIL.

4. IF “THE SNIFFER” DETERMINES THERE IS AN UNAPPROVED CHEMICAL PRESENCE WHETHER INSIDE THE TIRE, WHEEL, OR OUTSIDE THE TIRE, OR WHEEL, DRIVER(S) WILL BE DISQUALIFIED FOR THE REMAINDER OF THE RACING EVENT. TIRE(S) IN QUESTION WILL BE CONFISCATED, AND DRIVER/AND OR CAR OWNER MAY BE FINED AND COULD BE SUSPENDED AT SERIES OFFICIALS DISCRETION. DRIVER AND OR CAR OWNER WILL BE NOTIFIED IN WRITING OF DECISION, ALL DECISIONS ARE FINAL.

ANY TIRE THOUGHT TO BE PHYSICALLY DEFACED OR ALTERED WILL BE CONFISCATED. WHILE TIRE IS IN QUESTION ALL MONEY, AND POINTS FOR THAT DRIVER WILL BE HELD UNTIL A

RULING IS MADE FINAL. ANY TIRE DEEMED TO HAVE BEEN PHYSICALLY DEFACED OR ALTERED WILL RESULT IN THE FOLLOWING:

WARNING: LIAS TIRE AND AMERICAN RACER TIRE STRICTLY FORBIDS ANY CHEMICAL ALTERATION OF THE TIRE CARCASS AND/OR TREAD COMPOUND, SUCH AS TIRE SOAKING OR USE OF TREAD "SOFTENER."

WEIGHT:

1. GM CRATE ENGINE #88958602 – 2300 LBS. 2. GM CRATE ENGINE # 88958604 - 2350 LBS 3. ATTACHED WEIGHT MUST BE SECURELY BOLTED TO FRAME WITH 1/2" OR LARGER BOLTS. WEIGHT MUST BE PAINTED WHITE WITH CAR NUMBER DISPLAYED. PENALTY FOR LOSING ATTACHED WEIGHT ON THE RACE TRACK IS DISQUALIFICATION FROM THE EVENT.

EXOTIC MATERIALS:

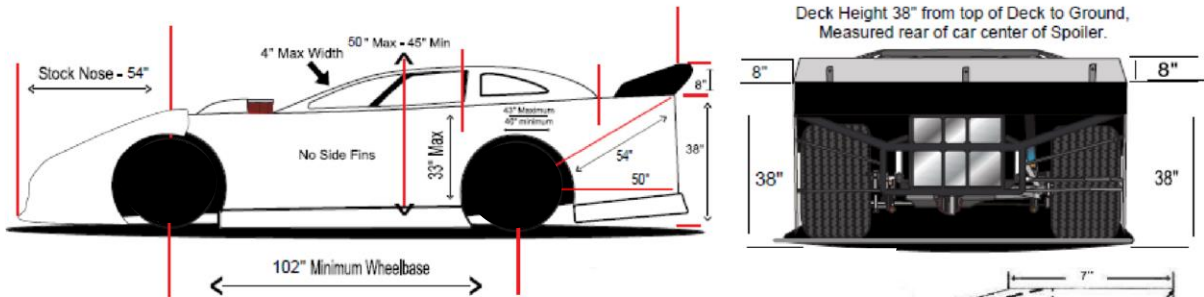
NOTE: All exotic materials are illegal, which includes titanium and/or carbon fiber. EXCEPTION: As noted above, carbon fiber driveshafts are legal for safety purposes.

INSPECTION:

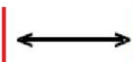
All cars may be subject to technical inspection at any time. Any driver fails to cooperate and/or allow an inspection of his car at any time will be subject to disqualification and/or fine and/or suspension and/or any other action deemed appropriate by the CARS Officials.

2017 CRATE AMERICAN RACER SERIES BODY RULES

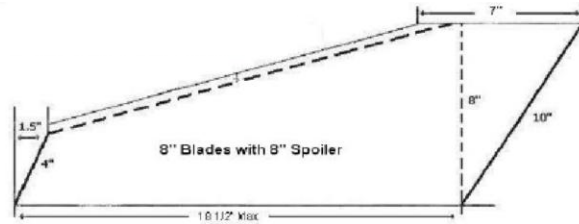
All body components 4" Min. above ground.
All body measurements are maximum unless otherwise specified.



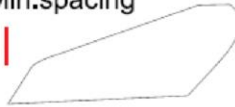
15" Min.
17" Max



*Rush Dirt Late Model Series
Spoiler Support Dimensions*

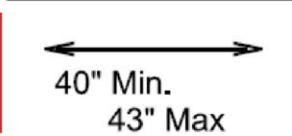


2" Min. spacing



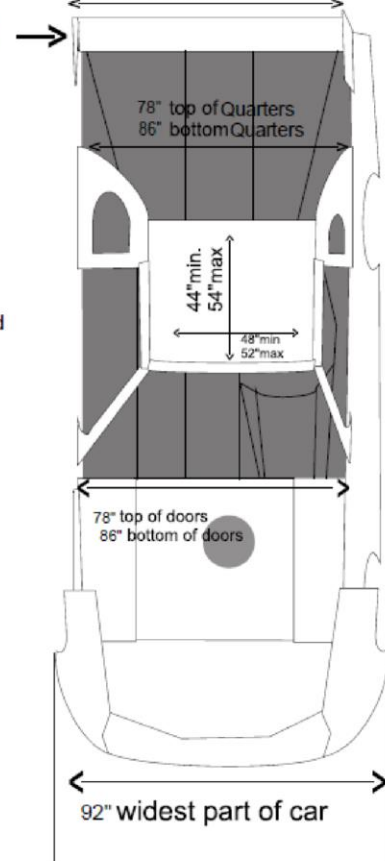
All specifications here are measurements above the deck. Be sure to allow 1" - 1 1/2" along lower edge to break for mounting purposes. Bottom corner of spoiler support should not extend past rear corner of deck.

40" Min.
43" Max



The Measurement of the spoiler is a total of all material including any turns, up or down, and includes support brace. Spoiler must meet template with 1 single break.

72" spoiler



Roof Supports

Front Roof Supports 4" Maximum With 12" flare max at bottom.
Rear Roof Supports or "C" Pillars, Window Openings Allowed but must be same size opening on left and right side, and can not be offset. If clear lexan is used IT MUST BE USED ON BOTH SIDES BOTH SIDES OPEN OR BOTH SIDES CLOSED. CURVED OR ARCED ROOF SUPPORTS ALLOWED, 3" MAXIMUM ARC ALLOWED AT WIDEST POINT, CHECKED WITH STRAIGHT EDGE, EXTENDED FROM ROOF EDGE TO DOOR EDGE.

