



Scale Off Road RC Association
2020 Official Scale Rock Crawling Competition Rules
(Changes in red)

This rulebook is intended to standardize scale off road RC competitions that are held at various locations throughout the world. The intention is for all clubs/events to use these rules as written; however, they may be modified on a local basis. All changes made to these rules at a SORRCA sanctioned event must be covered in a preliminary driver meeting and publicly posted before the event. These rules are written to outline the basis for building vehicles and running courses. Anyone attempting to circumvent the spirit of the rules, as determined by the Event Officials, will be subject to rejection from the event.

General Vehicle Details:

- You are encouraged to go above and beyond to make your truck as scale as possible.
- Vehicles accessories must resemble 1:1. Event Officials have full discretion to determine if a vehicle is accepted and how scale points are scored.
- You must run a rail chassis in Class 1 & Class 2. Class 3 can run a tube chassis but it must follow all C3 chassis specs. (Rail Chassis example: Bruiser/Mountaineer, SCX-10, Reign RC K2-3S, 3L, 4, 5, MFM, Trail, CR-01, UTE, etc...). No TVP (twin vertical plate) chassis' or frame rail extensions on a TVPs. Tub chassis are allowed, but chassis must be covered by the body and follow all other scale rules per class guidelines. An example of a tub chassis vehicle is CC-01, DF01, Twin Hammers, etc.
- Multi axle vehicles allowed in all classes and may use more than one front steering axle (front axles are considered any axles forward of the centerline of the skid), rear steer only allowed in modified class, C3.
- Rear steering(RS) or dig is allowed in modified class only, C3.
- No "Motor On Axle" (MOA) of any kind. All motors, transmissions, and other electronics (other than steering servos) must be chassis or frame mounted. Your axles must be driven by one transmission or transfer case and a minimum of two drive shafts (except CC-01, TA-02, etc) No separate throttle control of drive shafts or axles.
- Wheels larger than 2.2 are not allowed in any class and no short course style wheels with split diameters.
- Wheels must resemble a 1:1 type wheel. Wheels with exposed foams or front side stand off construction are not legal in any class. Fibre Reinforced Plastic (Ex: Carbon Fiber), translucent and clear materials are not acceptable.
- No bolt on or stick on external axle or knuckle weights of any kind.
- Any functional recovery tools you wish to use during your run, you must carry it on your rig at all times. IE tow strap, pull pal, and sand ladders.
- Winching can only be performed off of natural objects (i.e. trees, rocks, etc...), other vehicles, or stakes supplied by the course builder. Winching off of a person such as their shoe or hand is not allowed.
- All vehicles must have the motor, transmission, and electronics covered and hidden when viewed from the top and sides. Batteries must be chassis mounted and should be hidden from view.
- Exposed Brass/Bronze parts should be painted for a scale appearance, but paint isn't required.
- Winches are **HIGHLY** recommended!!!!!! Expect to use a winch.
- Water proofing is **HIGHLY** recommended!!!!!! Expect your rig to get wet

Tires:

Tires should be scale appearing, if it is questionable have it reviewed before the event, or plan to run a different tire. As new competition specific tires are released the ban list may be updated. Tire size will be determined by advertised manufacturer specs (tires without available specs will be measured off the truck as mounted on the wheel laid flat).

Tire Modification:

- Class-1 Street: No external tire modification is allowed.
- Class-2 Trail: Tire lugs may be removed, siped, grooved and/or trimmed.
- Class-3 Modified: Tire modifications are permitted, as long as the tire is no larger than 5.75" in diameter measured off the vehicle laying on its side, and all tire parts are from a legal scale tire.

Tire Ban List:

- Losi Claws, Boss Claws and bashers
- Hot Bodies Rovers and Sedonas
- HPI Rock Grabbers
- Panther Cougars and Leopards
- Pro-Line Chisels
- RC4WD X-Locks, Crazy Crawlers and Rocklin
- Imex Skulls and Bones
- Ottsix Voodoo Pins
- JConcepts Ruptures

Class 1 - Description:

• **AKA: Street.** A street legal off-road vehicle that you would drive to work or the trailhead and outfit like an expedition vehicle such as the Camel Trophy truck D90 rigs.

Class 1 Requirements:

Gates will be a minimum of 11" wide (so mind your width).

Use this table to determine if your vehicle is legal, and use the column on the left as a checklist.

Check List:	Requirement	Details
	CMS	Vehicle must utilize a Chassis Mounted Steering (CMS) setup.
	Windshield	Vehicle must have a windshield that fills the entire frame
	Bumpers	Full width bumpers are required on the front and rear of the vehicle, bumpers that are molded into the body qualify. A rear bumper is not required on a flatbed, but can be added for additional scale points. Bumpers must be at least as wide as the widest part of the windshield.
	Wheelbase	Wheels must be aligned within the center of the body wheel wells within (+/- 1/2 inch total combined)
	Body Requirements	<ul style="list-style-type: none"> • Only mild trimming is allowed, such as removing: flairs, trim, molding & a hardtop. A vehicle's stock bumper may be replaced with a chassis mounted bumper and material may be removed in front of the front wheel up to the stock bumper height. If the vehicle does not have a stock bumper, this area can be trimmed to the lowest light or grill bezel. Material behind the rear wheel well may be trimmed up to the bottom of the tailgate. An interior is required if the top is removed. • Bodies should be mounted in a realistic position in relation to the chassis (like a 1:1 would be). • Any removal or bending of material from behind the front wheel well (except trim/molding) is considered a boat side. • Bobbing a truck bed is allowed. • Tires can not extend beyond the body's bumpers or the rear of any truck bed. (Any stingers, fairleads, shackles, bolts, etc. are not considered part of a bumper when determining this.)
	Tires	<ul style="list-style-type: none"> • 106mm / 4.19" Max tire size including spares. • No external tire modification is allowed. • The tread cannot extend past the wheel wells more than 1/2 of the tread width (flairs can be used to reach min. spec).
	Chassis	<ul style="list-style-type: none"> • Vehicle must run a full length rail chassis (The rail chassis must be as long as the vehicles wheelbase)(Tamiya CC-01 chassis are allowed). • Truggies are not allowed, flatbeds with full length rail chassis are allowed. The bed must be as wide as the cab up to the point that the rear tires end, and must be at least 2/3 the width of the cab at its narrowest. Cab only not allowed. • Chassis must have metal frame rails with a Maximum Vertical Rise of 2" and ZERO "Sporty Lean". Must be a single rail per side, however adjustable length chassis (like the Ascender) are Class 1 legal. All chassis must have a skid plate that is parallel to the rockers. If present, shock hoops must be bolted, brazed or welded to chassis.

The following modifications are prohibited in Class 1:

Prohibited Modifications	Boat sides, dovetailing, or narrowing of the body is not allowed.
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Class 2 – Description:

• **AKA: Trail.** A stock vehicle that has been modified to become a capable trail rated rig and is not necessarily street legal.

Class 2 - Details:

Gates will be a minimum of 12" wide (so mind your width).

Use this table to determine if your vehicle is legal, and use the column on the left as a checklist.

Check list:	Requirement	Details
	Minimum Height	Body/cage work must be at least 4.5" tall (including boat sides) and the inside of the front tires cannot extend outside of the width of the cab at the doors.
	Bumper	A front bumper is required and must be mounted to the vehicle's rail chassis and must be wider than the outside of the chassis rails (chassis cross rails do not count as bumpers).
	Chassis	You must run a full rail chassis, and the chassis (including bumpers) must be 3" longer than the wheelbase (this includes a chassis with a truggy rear frame).
	Tires	<ul style="list-style-type: none"> • 120mm / 4.75" max tire size with a 2.2 max rim size including spare. • Tire lugs may be removed, siped, grooved and/or trimmed.

Chassis and body Modifications:

	Body Modifications	2 of the 3 following modifications are allowed: <ul style="list-style-type: none"> • Dovetailing the rear *a truggy/tube bed that is narrower than the cab counts as a dovetail* (1/2 the width of the widest part of the cab). • Boat sides (no more than 1.25" measured vertically from the bottom of the skid). • Pinching the front (2/3 the width of the widest part of the cab).
	Truggies	Truggies are allowed but must meet all of the following requirements: <ul style="list-style-type: none"> • The ladder frame must be replaced with tube behind the cab. • This tube must extend past the rear axle pumpkin. • The bed must have a roll bar hoop and integrated shock mounts which is a structural part of the vehicle.
	Flatbeds	Flatbeds that run the full length of the rail chassis are allowed. The bed must be as wide as the cab up to the point that the rear tires end, and must be at least 2/3 the width of the cab at its narrowest.

Class 3 – Description:

- **AKA: Modified** An off-road vehicle that you would build from the ground up and might see in a TTC/KOH type competition

Class 3 - Details:

Gates will be a minimum of 16" wide (so mind your width).

Use this table to determine if your vehicle is legal, and use the column on the left as a checklist.

	Minimum Height	<ul style="list-style-type: none">• Tire height can be no more than 0.5" taller than cab height. Height is measured from the bottom of the skid to the top of the bodywork/tube not including a light bar.• *Example*(5.5" tire = 5" tall from bottom of skid to top of cab/tube work)
	Width	<p>Rock sliders, mirrors, etc. do not count in these measurements:</p> <ul style="list-style-type: none">• There is no maximum width, but gates will be a minimum of 16" wide.• The distance between the inside of the tires (of any axle) can be no greater than 1.25" more than the width of the body at the doors.• *Example* (7" inside-of-tire to inside-of-tire = body must be 5.75" wide)• The body must be at least 5" wide from the front to the rear of the doors.
	Length	Body/Chassis must be at least as long as the wheelbase of the vehicle.
	Tires	<ul style="list-style-type: none">• 146mm / 5.75" max tire size with a 2.2 max rim size (including spare).• Tire modifications are permitted, as long as the tire is no larger than 5.75" in diameter measured off the vehicle laying on its side, and all tire parts are from a legal scale tire.

Scale Points:

Scale points are to be awarded at 50% of a vehicle's total value (rounded down if necessary) for an average 10 gate course.

Minimum/Maximum values are to be determined by the event organizers or local clubs. Scale points will be applied to a DNF but not to a DNS.

No items can be counted more than once unless noted otherwise

Section	Item	Description	Type	Points
Body:				
	Hard Body			
		Hardbodies can be injection molded or hand made from styrene or metal.	Full	-12
		They can also be 3D printed or vacuum formed but must have a finished thickness of .060 with these processes to receive hardbody points.	Cab	-6
	Drop Bed			
		Must be a minimum of 1.25" deep from top of bed sides to top of entire floor. Wheel wells must be realistic size.		-3
	Custom Built Hard Body (Points are awarded in addition to hard body points).			
		Must have 3-dimensional body panels that cover the chassis (not flat panels that bolt in between visible tube work). Must resemble a known 1:1 body and must be hand formed and fabricated from metal or other rigid material	Full	-4
			Cab	-2
	Inner Fenders (front OR back-can do both) -Inner fenders must fill area between the chassis and body.			-1
Bed: (not available to tubers)				
	Tube bed or Flatbed			
		Tube beds and flat beds must be up to the point that the rear tires end, and must be at least 2/3 the width of the cab at its narrowest in Class 1. If they do not meet this criteria in class 2 it will count as a dove tail.	Metal	-3
			Plastic	-1
	Headache Rack or Roll Bar			
			Metal	-2
			Plastic	-1

Tubers, Truggies and roll cages:			
Truggy (only applicable to Class 2 and 3):			
	Truggies are allowed but must meet all of the following requirements:	Metal	-4
	• The frame must be replaced with tube behind the cab.	Plastic	-2
	• This tube must extend past the rear axle pumpkin.		
	• The bed must have a roll bar hoop and integrated shock mounts which is a structural part of the vehicle.		
	XXXXXX Tube bed, roll bar, shock mount points not available in addition to truggy bed points.		
Tube Frame (only applicable to class 3):			
	A tuber consists of a complete body structure where the front, cab, and rear sections are comprised entirely of structural tube work.	Metal	-8
	XXXXXX Tube bed, roll bar, internal cage, and shock mount points not available in addition to tuber points.	Plastic	-4
Rigid flat metal/plastic body panels			
	Body panels that rely on a Tube frame for their shape.		-1
Interior or Exo Cage (Per row of seats or area where seats would be)			
	• Cage must have down bars and cross bars in front and behind each row.	Metal	-3
	• Cage must be a rigid material of at least 1/8" diameter that is permanently brazed, welded, soldered or mechanically fastened together, to create a single unit.	Plastic	-1
	• Cage must be affixed to a rigid floor board, fender well, slider, bumper or structural part of the chassis.		
	• A vehicle interior is required to receive cage points.		
	XXXXXX Interior and Exo Cage points are not available to tubers.		
Tube / Plate Accessories: Must be made from a rigid material - tube must be 1/8" diameter or more - flat plate may be any thickness with a minimum of 1/2": IE, it can be bent but two measured sides must equal at least 1/2" - smaller material may be used, but will not count towards points			
Sliders			
	Must be mounted on both sides and within 1/2" of each wheel well, or to the back of the cab on trucks.	Metal	-3 per pair
	Must be mechanically fastened, welded, or brazed to the chassis OR Hard body.	Plastic	-1 per pair
Bumpers			
	Must be chassis mounted and separate from the body	Metal	-3
		Plastic	-1
Stinger / Grill Guard (Points award in addition to bumper points)			
			-1 (Max)
Fabricated 3D Shock Mounts			
	Must be made of metal and brazed or welded to the chassis.	Metal	-1 per pair
Roof Rack (you only receive points for either a roof rack OR a light bar).			
		Metal	-2
		Plastic	-1
Light bar			
	Must be mounted above windshield or on top of the roof/roll bar. Minimum width, 3.5".		-1

Interior:			
Full Interior			
	A full interior must include all of these 3D pieces: seat, dash, steering wheel and complete floor. The interior must be deep enough for a scale figure from the knees up. An additional -2 points for a handmade/custom interior Absolutely NO cutting and re-gluing of pre-molded lexan/styrene interiors to gain additional custom points.	1 Seat	-3
		2 Seat	-4
		4 Seat	-5
SUV Cargo Area			
			-1
Full Interior Driver/Passenger (1 passenger maximum):			
	<ul style="list-style-type: none"> Figures must be human, scale sized adult figures. A complete figure must be a minimum of 5 1/2" tall, and all partial figures shall be of similar scale to a complete figure. 	Full Figure	-4
	<ul style="list-style-type: none"> Any interior that is vacuum formed to include driver figure(s) will receive interior cover points only 	Knees up	-3
		Torso	-2
		Head/Arms	-1
Interior Cover (Interiors that do not meet the above specs for a full interior)			
	A Driver will receive an additional -1 and no points for passengers.	1 Seat	-1
		2 Seat	-2
		4 Seat	-3
Suspension, Drivetrain and Steering:			
Leaf Springs			
	Must Support vehicles weight without external shock springs.	1 Axle	-3
		2 Axle	-7
Multiple Driven Axles			
	3 Axles		-3
	4 (Or more) axles		-5
Chassis mounted steering servo			
		Front	-5
	XXXXX Rear CMS points are only available in Class 3	Rear	-2
Functioning Transfer Case			
	<ul style="list-style-type: none"> Must be chassis mounted, and have it's own gears that split the power between the front and rear axles. T-case points must include these 3 items: a motor, a geared transmission and a transfer case. 		-4
3D Engine			
	Must be in a reasonable location and appear to be powering the drivetrain of the vehicle.		-4

Accessories:				
	Non-Functional (-1 Each - Maximum of -6)			
	-1 Each	<ul style="list-style-type: none"> • Items that are non-functional but you would see on a trail truck. • Examples: Fuel cell, exhaust, jerry can, hubs on all wheels, steering stabilizer, disc/drum brakes on all wheels, mirrors(2), wipers(2), antenna, license plate, first aid, extinguisher, trail tools, Hi-lift jack, etc.. 		-6 (Max)
	Functional (-1 Each - Maximum of -8)			
	-1 Each (*unless otherwise noted)	<ul style="list-style-type: none"> • Functional Items found on a trail vehicle • Tow strap, -D-ring, Pull Pal, sand ladder, hitch, opening doors and hood, spare tire mount, etc. *Headlights (2) and taillights (2): -2 *Winch (electric powered): -2 front, -2 rear (max -4) 		-8 (Max)
	Spare Tire			
		<ul style="list-style-type: none"> • Must remain a functional item (mounted to a rim). 		-3 (Max)
		<ul style="list-style-type: none"> • Must still be within 1/4" width & height of the drive tires 		